THE JUNIOR HIGH SCHOOL AND ITS CURRICULUM

PHILIP W. L. COX

E. N. Staffelbach

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BY

PHILIP W. L. COX

PROFESSOR OF SECONDARY EDUCATION
SCHOOL OF EDUCATION
NEW YORK UNIVERSITY

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TO

MY FORMER COLLEAGUES

OF THE

EASTON, MASSACHUSETTS, JUNIOR–SENIOR HIGH SCHOOL

SOLVAY, NEW YORK, JUNIOR-SENIOR HIGH SCHOOL

AND THE

BEN BLEWETT JUNIOR HIGH SCHOOL, ST. LOUIS, MISSOURI,

WHO HAVE BEEN CONSTANTLY ENGAGED IN THIS ADVENTURE

WITH THE

CURRICULUM EMERGENT IN THE NEW JUNIOR HIGH SCHOOL

PREFACE

The junior high school expresses a changing conception of education. This new type of school is characterized by tolerant, friendly, and spontaneous relationships among pupils and teachers and parents and other members of the school communities. It offers opportunities and encouragement to the creative aspirations of all the adventurous spirits of the school community. It exemplifies those aspects of democracy and Americanism which promise most for the present and for the future. It is an adventure in common purposes and in their fulfillment through individual endeavor.

The number of junior high schools has increased very rapidly in all parts of the country. City systems in which the public junior high schools had found a place in 1918 numbered 123; in 1926, 383 city systems included one or more junior high schools. The number of pupils attending junior high schools increased in this same interval from 119,921 to 736,464; and the number of teachers engaged in teaching junior high school pupils, from 4,242 to 25,430.[1]

Naturally, not all junior high schools are successful in taking advantage of the opportunities which their newness offers. Before they can modify their philosophy of education and develop behavior-patterns adequate for this new American institution, teachers and administrators find themselves faced

[1] Bulletin, 1927, No. 33. Bureau of Education, Washington, D. C.

with practical problems of organization and instruction. To meet these immediate needs, curriculum practices are often borrowed from the conventional elementary and high schools with which teachers and parents are familiar and feel secure. As a result, there is a danger that traditional practices may become intrenched in the curriculum. In this case, old wine is being poured into new bottles.

Too frequently there is thus lost much of the psychological advantage which might accrue from the newness and experimental nature of the junior high school. If, however, pioneering principals and faculties are resourceful, they will find that the internal organization of the new institution offers a favorable situation for seriously conceived plans closely related to a clear educational philosophy of administration. Here we can "shunt our educational machinery during this particular three year period into the field of diagnosing and consciously exercising . . . the individualities of pupils." [1]

The extraordinary increase of junior high schools has emphasized many problems involved in the education of children at the dawn of adolescence. Of these problems, the most acute and immediate is that of the organization, content, and method of the junior high school curriculum. The wise solution of any other problem of junior high school education is unlikely unless the curriculum be newly and broadly conceived in harmony with the social aspirations of our American democratic communities, the needs and opportunities of the evolving economic era, and the traits which characterize children in their early 'teens.

[1] Johnston, C. H., Newlon, J., and Pickell, F. G.: "Junior-Senior High School Administration." Charles Scribner's Sons, 1922.

The impulse and desire of children at the dawn of adolescence to live their own lives, to be themselves, to be emancipated from mothering and meticulous instruction, will, if thwarted by rigid curriculum practices, result in distorted personalities and unfortunate behavior difficulties. The successful curriculum will provide opportunities for each pupil to have a share in selecting his own work, to follow and develop his worthy individualistic, avocational interests, and to complete these self-accepted tasks for the sense of mastery, the joy of accomplishment, and the approval of his fellows.

The development of such curriculum practices must come from clear thinking and evaluated experience. The purpose of this volume is to express for junior high school teachers and administrators an adequate philosophy, and a program which harmonizes with it. While the recommendations for curriculum practices contained herein are sufficiently explicit for assured successful introduction, they are meant neither to be dogmatic nor to imply finality. Rather should they be considered as suggestions for discussion and experimentation and modification. They can, however, be introduced as they stand with every assurance that they conform to the most progressive practices and that they are feasible.

The debt of the writer to John W. Withers, Thomas H. Briggs, Charles Hughes Johnston, James M. Glass, Joseph K. Hart, William H. Kilpatrick, and John Dewey, whose contributions to educational philosophy and practice underlie the emerging curriculum, deserves special mention.

For the preparation of the manuscript, credit is due to the author's colleague, Dorothy I. Mulgrave, Instructor in English, New York University School of Education. To Hughes

Mearns, Paul S. Lomax, Jay B. Nash, Garton K. Wagar, Charles J. Pieper, Walter Barnes, Forrest E. Long, and John R. Clark, each of whom read and criticized the chapters in which he was peculiarly interested, the author takes this opportunity to express his gratitude.

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INTRODUCTION

"'Let the dead Past bury its dead' would be a better saying if the Past ever died," says Galsworthy. "The persistence of the Past is one of those tragi-comic blessings which each new age denies, coming cock-sure on to the stage to mouth its claim to a perfect novelty." The continuity of institutions —the encroachment of social habits until they overwhelm or dilute each new conception—is the first "law" of history. Accordingly, it is sometimes feared that the junior high school is in danger of becoming a glorified grammar school.

Is the junior high school already becoming the gray ending of a bright hope? Are the vested interests and the stupid inertias typical of the "social lag" to dominate this new institution? Must we look for real educational progress to private experimental schools, to the "new schools" of Western Europe, to Russia, and to Mexico? Is the influence of conventional subject-teachers so strong in American public education as to veto the application of a new philosophy of education?

This volume is written in the belief that junior high school teachers and administrators can save their institution from failure; that they can, indeed, make the outstanding educational contribution of our current American life. Such confidence is justified, the author believes, not so much by a vague faith in American ingenuity as by his personal experience of eighteen years in teaching and administering schools for children of junior high school age. More specifically it is based on his experience in developing three public junior

high schools and in administering the junior high school departments of two private schools.

At Easton, Massachusetts, he has watched a straggling lot of small-town boys and girls, careless of dress and conduct, relatively few of whom expected to complete the high school, change in two short years into a clean, upstanding, co-operative, well-mannered generation, eager to continue into a senior high school which welcomed each one and suited the school program to his capacities and ambitions. He has watched, too, the formal drill-master teachers become gradually humanized, interested more in the education of boys and girls and less in merely schooling them in processes and facts.

Fifteen years later, in 1928, one-fourth of the entire pupil population of the town is enrolled in grades 9 to 12. They are uniformly courteous, co-operative, and earnest. Teachers and intelligent citizens date the change among the youths of the community from the organization of the junior high school in 1911.

At Solvay, New York, he has helped in the metamorphosis of Regents' academic preparatory grammar and high schools into a community service institution. He has known personally of the transformations in dress and behavior, of the marked changes in the hygiene and social atmosphere and appearance of the homes, of the improvement of civic institutions and of human relationships among religious, racial, and nationalistic groups, of the more intelligent youthful vocational adjustments and the co-operations between the schools and industry and business, and of the more desirable uses of leisure time by children and many adults. He knows that it is the belief of all competent observers of conditions in Solvay from 1913 to the present that the readjustment of the Solvay schools, particularly the organization of the junior high

school, has had a penetrating and commanding influence in promoting these changes.

The contributions to individual and community welfare of the Ben Blewett Junior High School of St. Louis, Missouri, organized by the author and his colleagues in 1917, are less dramatic than those of Easton and Solvay because the St. Louis schools and the local community of west-central St. Louis were less in need of fundamental reorganization. The school has, nevertheless, remained for over a decade an outstanding concrete example of what an idealized school community life can do for boys and girls of varying capacities and interests, and for the home and civic activities of the children and their parents.

In the junior high school departments of the Washington School of New York and the Lincoln School of Teachers College, the author has participated in the somewhat less revolutionary but very effective curriculum modifications by which boys and girls were helped to express themselves creatively in the arts, in reflective thinking, and in social control.

These first-hand experiences assure him that the junior high school can and will work out its own salvation. But such a devoutly to-be-hoped-for consummation awaits a clear recognition that its path leads onward and upward toward democratic ideals of individual and social growth. It is bound up in the successful emergence of a dynamic philosophy of education.

The present curriculum situation in the junior high school is confused both by educational inertia and by conflicting and overlapping conceptions of curriculum aims and values. Inertia is dead-weight; it determines curriculum practices to the extent that cerebration and courage are lacking.

The conflicting conceptions of curriculum values, however,

reflect successive attitudes of men and women all of whom have honestly striven to find the truth and to modify curriculum practices accordingly. Four distinguishing concepts have been based on four successive assumptions. These four assumptions are not distinct from each other. Each has resulted from a new emphasis or a new point of view. Current programs of curriculum revision can be found which are based in part on each of the four assumptions.

(1) Some curriculum revisions are based on the essential permanence of the accepted subjects; (2) others are characterized by radical eliminations and additions and new combinations of subjects; (3) in a few cases subjects are subordinated to educational objectives; (4) the emerging curriculum is actually *planned in terms of objectives*. Many educational thinkers subscribe, consciously or unconsciously, to all four assumptions, so that curriculum thinking is often decidedly muddled.

Assumption 1. *Subjects have inherent values in the education of children.* In our school practices and in the educational philosophies of most of us teachers there are considerable quantities of unquestioned faiths in the mystic powers of subjects. Some of us may realize that Latin does not automatically make the student healthy, wealthy, or wise, but we are likely to believe that music or art or physical training will inevitably do something of great value for children. Such an underlying mystic faith sooner or later distorts most educational thinking. Hence, otherwise active and progressive school men sometimes identify themselves with those who are inert.

Assumption 2. *Curriculum content should be based on analyses of adult activities.* What arithmetic processes are used in community life? what words? what punctuation

marks? what historical and geographical facts? what health practices? By "scientific" sociological analyses the functioning traits are determined and it is demanded that these facts and processes and habits and attitudes shall be taught to the children. The outcomes of such teaching are tested by standardized scales or with new type tests; that teacher is often considered to be an efficient teacher whose pupils have learned the items and have stood well on the tests. Obviously, this is a more rational basis for curriculum construction than that of the first assumption. Nevertheless, it makes the child a sort of learning mechanism; his present interests and enthusiasms are not considered. Thus, "scientific" curriculum-making becomes a cumbersome obstacle to any vital curriculum progress. Curriculum revisions since 1920 have too often been based on this inadequate assumption; such courses of study generally consist of verbal "facts" and lists of words to memorize, and processes to practice. Meaningless and ineffective, such curricula must surely be.

Assumption 3. *The curriculum consists of meaningful activities through which facts, habits, and attitudes can be taught.* Few curriculum-makers have as yet reached this assumption. The objectives—knowledges, interests, ideals, habits, and powers which are characteristic of approvable child and adult practices—are to be reached by projects or activities in which pupils engage eagerly. The child's objective may be the dress to be made, the letter to be written, or the song to be sung. The teacher, however, has assured himself that in working out the project, the traits which are of social significance will be promoted. Often the child is made conscious of the value of such a control; in which case the practice itself may be closely articulated with the project. At its best, the educational goals—health practices, command of the fundamentals,

home membership, citizenship, leisure, and vocational adjustments—are inherent in the success of the project. Based on this assumption, projects are set up for the purpose of developing ascertained, specific, desirable traits; attitudes and desires, it is hoped, are achieved incidentally.

Assumption 4. *Attitudes and desires of children are of much more significance than are present knowledges and skills.* There is emerging, however, an even more child-centric curriculum philosophy than that generally implied in the activity curriculum. According to this conception the curriculum must be controlled not so much by what information and skills the child is to learn in school as it is by how he feels about what he learns. The sponsors of this emerging curriculum do not take direct issue with any of the preceding conceptions. They would teach some subjects; they would be guided by social analyses; and they would decidedly depend on purposeful activities.

(1) They point out, however, that while music or reading may be so taught as to benefit many pupils, some pupils doubtless learn to "hate" reading because of the unpleasant experience of learning to read, or to avoid singing because of their school music experiences.

(2) They question the results of the curriculum of facts and processes based on activity analyses. They point out that even pupils who are taught by the Morrison *Mastery* Formula,[1] the Courtis practice methods, and the Winnetka goal plan soon forget that in which they are supposed to be one hundred per cent perfect.

(3) They generally approve in principle the conception of an activity curriculum. They assert, however, that child-

[1] Cf. Funk, M. N.: "A Comparative Study of the Results Obtained by the Method of Mastery Technique and the Method of Daily Recitation and Assignment." *The School Review*, vol. 36, no. 5, May, 1928.

activity cannot be instituted without the child's participation and that one cannot prophesy a year or more in advance what interests and stimulations and behaviors will prove satisfying to a thirteen-year-old boy at eleven-ten on Tuesday morning, April fourth.[1] Hence, the pupil's self-initiated activity curriculum must, in the nature of things, be developed from day to day. Only in rough outline is a ready-made course of study feasible, if it is to be used as a basis for pupil activities.

While the sponsors and practitioners of the curriculum-emergent recognize varying validity in the above-mentioned practices, they are themselves committed to a curriculum of intrinsic subject-matter. They see life as the child's curriculum. They seek to capitalize all that the child may learn in his home and neighborhood, at the movies and in the newspapers, at play and at work, in school and out, and in all seasons of the year. They seek, in a word, to help pupils to do better those desirable things which they are now doing and which their parents and other adults are now doing, by having the school reproduce within itself situations typical of and supplementary to social life. Through such life-projects, the school may re-enforce, guide, and direct the present and future interests and activities and standards of boys and girls in their youthful and adult communities.

In the curriculum-emergent there is little fear that children will not learn enough. Its practices are based on the assumptions that if they are enlivened first, if they enjoy learning, if the adventure of discovery has an appeal, then will they spend their lives learning and investigating and reflecting and experimenting. In a word, the curriculum-emer-

[1] Cf. Raup, R. B.: "The Unit of Instruction and Study." *Journal of Educational Method*, vol. 7, no. 3, December, 1927.

gent involves present satisfying practices of the social objectives themselves—home-membership, citizenship, leisure-time activities, health practices, and, in a somewhat less conscious way, the attributes underlying vocational success and ethical character.

Because the pupils are thus enthusiastically and successfully engaging in the dynamic experiences of community life, they themselves develop emerging personalities. By the practice of active adaptations in a life that is diverse and constantly changing, they develop the abilities and readinesses necessary for a lifelong voyage of discovery, exploration, and positive adjustment.

For "individuality is not an original possession or gift," says Dewey. "It is something to be achieved, to be wrought out. . . ." And it is to be wrought out through "that intellectual and emotional sharing in the life and affairs of men which embodies the spirit of the Golden Rule" that Bode sets up as the final goal of education.

By means of curriculum practices so conceived, the Danish Folk High Schools have contributed significantly to the transformation of a peasantry, unprogressive, sullen, suspicious, averse to experiment, and incapable of associative enterprise, into the forward-looking, cheerful, scientifically minded, resourceful, co-operative farmers and artisans of the Danish countryside to-day. The Danish schools work with young adults, to be sure; but the spirit and content and methodology is, nevertheless, very similar to those which characterize the emerging curriculum practices of the junior high school.

The conviction that such pioneering practices will succeed will be strengthened by a knowledge and appreciation of the contributions made by such schools as the Washington Junior High School of Rochester, the Latimer Junior High

School of Pittsburgh, the Oliver Wendell Holmes Junior High School of Philadelphia, the Seward Park Junior High School of New York, the Kansas City, Kansas, Junior High Schools, the Winfield, Kansas, Junior High School, the Grover Cleveland Junior High School of Elizabeth, New Jersey, the Cleveland Junior High School of Newark, New Jersey, the Bayonne, New Jersey, Junior High School, the Okmulgee, Oklahoma, Junior High School, the Lafayette and Ben Franklin Junior High Schools of Uniontown, Pennsylvania, and many other deservedly well-known junior high schools. Brave, resourceful teachers and principals have succeeded so regularly and so convincingly in establishing truly pioneering adventures in the education of children at the beginning of adolescence, that further progress needs only reasonable confidence and concrete guidance.

Such guidance this volume undertakes to furnish. It deals with the broader, more direct curriculum which is emerging even now in progressive junior high schools. It denies a place *among the electives* to no conventional subject-matter desired by parents or of interest to pupil groups. It recommends a core-curriculum, common to all pupils (though adapted for various levels of abstract verbal ability) which can readily be built up as an activity-curriculum imbedded in and contributing to worthy social and individual projects. In this volume will be found a consistent philosophy of democracy and education, illustrations of its application to junior high school pupils and situations, and suggestions enabling each junior high school faculty to work out, with the help of children and parents and community leaders, a flexible purposive curriculum.

For the junior high school, like the democracy of which it is a part, must be in a process of constant readjustment. Those

teachers who desire certainty and completeness, those who do not enjoy adventure, those who want to know just what facts or pages they are to teach, are sure to be unhappy in an ever-adjusting school. Those who are youthful in mind and spirit and who feel the urge of the open road will be gloriously happy in this adventure with an emerging curriculum.

CHAPTER I

THE SPIRIT OF THE JUNIOR HIGH SCHOOL

The spirit of the junior high school is the spirit of youth. Whoever has no joy in adventure, whoever wishes to "play safe," whoever has achieved mental and emotional sclerosis should avoid the junior high school. For this new institution is a school of to-morrow.

Its sponsors and leaders are, indeed, looking far beyond to-morrow. Nothing less than the millennium itself is the final goal. But being realists, they know that there are many intermediate steps to be taken before Utopia is reached. The junior high school exemplifies the spirit of the impending.

All about us is community life, a changing life, an industrial, specialized, interdependent life. In so far as our republic has any purpose or direction, it is formally and frankly engaged in adjusting democratic aspirations and practices to a rapidly changing life.

Many factors contribute to the complexity of our community existence. Underlying them all, however, and largely determining their influence, are two social phenomena: (1) the penetration of a spirit of skepticism and criticism throughout almost all population groups—age groups, racial groups, geographic groups, and economic groups: (2) the scientific-technical revolution which has brought about material prosperity, leisure, the more liberal consumption of goods, and increased safety and comfort of human life.

A Period of Changing Institutions Demands Penetrating Insight and Bold Planning. Far-reaching, revolutionary

changes must come in practically all human institutions in response to the changes in individual and community living. A period of rapid change is obviously a time when a clear-thinking leadership can render unmeasurable beneficence, and when, if such is lacking, social disintegration may result. In the realm of production and consumption, such a problem is at present acute. American industry produces more than the American people normally consume. Wages increase, however; people are more nearly able to gratify their desires for what has hitherto been denied them; standardized goods are advertised; increased wants are created; consumption increases; mass production becomes ever more profitable; propaganda, bribery, and subsidies are sometimes used to keep people from asking "foolish" questions; our natural resources are exploited; and everybody seems either happy or indifferent.

A vague faith in the power of education to meet whatever conditions develop is a remarkably persistent phenomenon of social thinking. Many social thinkers are frankly pessimistic regarding the power of institutionalized education to deal effectively with conditions. They assert that the school's practices are a response to the adult community's present interests and desires; that the community, or those elements of it which influence the schools directly, wants the "schools to maintain, defend, and reproduce in the younger generation the vested mind and emotions of the passing generations." [1]

Seldom in the past, to be sure, have "recognized" educators themselves led the way; improvements and redirections of education have more frequently come from philosopher-seers like Plato, Comenius, Rousseau, Pestalozzi, and Grundtvig.

[1] Hart, J. K.: "Light from the North." Henry Holt and Co., 1921. Introduction, pp. xviii–xix.

Similar statements have been made by Glenn Frank, J. H. Robinson, Bernard Shaw, E. O. Sisson, W. A. White, and others.

In periods of great social crises in the past "schoolmen have worked and written and left us no indication in their writings that they had any contact with or any interest in the great social forces which we now see to have been completely revolutionized. . . . In the future we may ask what really shapes the character of the present generation—whether it is the technical school room or the influence of the movies, the newspaper, public games and announcements, professionalized propaganda of various kinds. . . . *Social progress in any line does not come of itself. A large part of progress is due to the initiative of the younger generation. They*, to a large extent, *furnish the guiding force.* . . . Progress comes only through keen insight, clear vision, determined effort, and personal sacrifice." [1]

The younger generation furnishes the guiding force! This also is the note of optimism on which Van Loon closes his *America*; it is the benediction of the Beards' "The Rise of American Civilization"—youth and the invention of invention. And Mumford sums up in his "Golden Day:"

The power to escape from this sinister world can come only by the double process of encountering more complete modes of life and of reformulating a more vital issue of ideas and symbols to supplant those which have led us into the stereotyped interests and actions which we endeavor in vain to identify with a full human existence. [2]

The Junior High School Can Help Subsequent Generations to Meet Social Problems Bravely and Resourcefully. Within that community life and as part of it, an institution is established into which may come all of the children of the community at late pre-adolescence—beautiful little folks, eager, active, unspoiled, trustful of adults, not yet self-conscious, and not unduly inhibited. For three years these children live in the friendly, enthusiastic world of the junior high school. To live

[1] Monroe, Paul: Phi Delta Kappa Address, Atlantic City, March, 1921.
[2] Mumford, Lewis: "The Golden Day." Boni and Liveright, 1926.

in such an environment means to participate vigorously and eagerly in the controlled world of personal realtionships—in home-room projects, in assemblies, in games, in lunch-room, in parties, in school government, in the publications, and in the social services of the school.

During these three years our little folks are growing tall, their voices are changing, their sex consciousness is ripening, they are growing into the adult *mores* of society. Despite the stupid efforts of adults to superimpose their standards and prejudices, however, the process of growing up is one of active adaptation. Children experiment with life and its customs; they select and modify those practices which they adopt to the end that satisfaction, relatively immediate satisfaction, may ensue. In manners, in dress, in speech, in co-operation, in conflict, in selection of food, in athletics, in tenderness, in appreciations, and in practical efficiencies, they emphasize and adapt those behaviors of which they are capable and which bring them the social approvals and the inner satisfactions or complacency for which they instinctively yearn. Emergent education is increasingly recognizing this controlling condition and is shaping its curricular practices accordingly.

The junior high school's instruments of education are used to re-enforce, guide, and direct the activities of its children throughout their school days. General science and physical education are not divorced from the lunch-room or the after-school play time. Community civics finds its expression not alone in class work and text-assignments; it is related to the direction of assemblies, of corridor traffic, of student participation in school government, and the like. It is the same for shop-work, for the household arts, for the fine arts and music, and for English. These classes are instruments that make for better civic and leisure time activities in the school. They exploit the

emotional and intellectual resources of the children in the school's social setting.

The junior high school often extends its instructional program far beyond the re-enforcement and direction of pupils' intra-mural activities, however. It allies its curricular and "quasi-curricular" programs with the extra-school lives of the children. These programs stimulate and give recognition to the pupils' domestic contributions, to their out-of-school jobs, to their responsibilities in the Boy and Girl Scouts and in the church, to their use of the Public Library, to their week-end and vacation pursuits, and to their co-operative attitudes and activities in relation to the traffic officers, the park police, the fire department, the board of health, Red Cross, district nurses, and other social agencies. They encourage children "to do better those things that they will do anyway," by rewarding their present achievements both in and out of school hours. Thus, the junior high school stimulates initiative and invention in social service, in art, in mechanics, and in play. It glorifies creativeness.

It is evident that the junior high school is an expression of a very revolutionary concept of education. It prepares for all life; hence, preparation for senior high school and college, and for vocations is provided for, since they are essential aspects of life. But the junior high school is only secondarily interested in specific preparation for fixed scholastic and examination requirements of high school and college, or for specific vocational skills. Its primary function is the direct preparation for present social efficiency and for the present worthy uses of leisure time.

Nevertheless, preparation for further education is not necessarily neglected. Zealous preparation for jobs immediately to be performed is essential to success in higher education and college. Intelligent choice of occupations may be important in

motivating and directing further education whether in school or "on the job." Even more important are good physical and mental health, self-confidence, courtesy, tolerance of differing view-points, ideals of sportsmanship, and self-control; such traits as these are developed in the very real life of the junior high school and its co-operating agencies.

Even in the scholastic fields, the junior high school's curriculum emergent results in better preparation for rational high school and vocational success, although this is not its primary interest. Pupils learn to read and enjoy foreign languages. Mathematics and science are significant aspects of their leisure time and "play-work" experience. They browse about and live vicariously in a far greater realm of literature and history and nature study than ever before. Their commercial and industrial and fine arts school experiences are so real—are in fact so intimately bound up with the creative life of the school community—that relatively pretentious projects in these fields are commonly found in successful junior high schools. Functionally considered, the quality of work is surprisingly adequate.

It is an essential of the junior high school spirit that learning is worthwhile—or even real—only when it changes the things pupils do or the way in which they do them. Stating this differently and more specifically, the junior high school refuses to glorify instruments of education by making them ends in themselves. To learn Latin declensions, algebraic technic, English grammar, and historical "facts" is not education. Unless one's health, one's civic, domestic, economic, and leisure behavior is altered, unless one grows in good will, no quantity or quality of achievement in formal education is of any positive value.

Furthermore, the junior high school's spirit is so catholic and forward-looking that it endeavors to help each child succeed always in what he is doing. For it recognizes that con-

tinued failure is partial death and that pupils learn only what they practice with success. The successful junior high school's greatest achievement is that it generally gets pupils to desire to put forth great and intelligent effort to do well whatever they attempt, and hence to be content only with success. It is, indeed, part of the junior high school's fundamental philosophy that the "learner's *intent* counts here to determine whether a way of behaving will be built *into* one's character as a positive tendency of action or whether it will be built, as it were, *out* of it as an aversion, a thing not to do."[1]

The junior high school is a life of application of learnings so that the pupil not only learns the habit, the ideal, or the information, but also he uses it to publish the magazine, to speak to the assembly, to organize the lunch-room, to assist in the book-room, to build the school radio. Particularly in this realm of the application of tested knowledge does the school recognize that learning never takes place alone. It takes account of the fact that the emotional concomitants both of the learning and of the application of the facts and skills will determine whether the pupil will go on into life continuing to apply his school learnings to his every-day duties and pleasures.

In a word, it is the spirit of the junior high school to prepare pupils for self-control in a world in which the old *mores* are being frankly questioned, where "beliefs" and "credos" are being challenged. In this new world each one must face for himself the pressure of the adult crowd which would constrain him to conform to many standards of dress and attitudes that he has intellectually outgrown. And he must face, on the other hand, the skeptic's insistent challenges of many institutions and behaviors which are potentially not always of great value

[1] Kilpatrick, W. H.: "Education for a Changing Civilization," The Macmillan Co., 1926, p. 99.

to society, e. g., "religion," "obedience," "charity," "family loyalty," and the like.

Hence, each one must be armed with defensible whys that have been worked out by himself—by his social self as behavior responses. The junior high school curriculum, therefore, encourages the pupils to look into the past only so that they may look more fearlessly and intelligently into the present and into the unknown future.

The Emerging Life-Curriculum Directed by Progressive Junior High Schools Becomes an Instrument of Creative Co-ordination. Creative co-ordination is the phrase used by Michael Pupin to describe the function performed by the piston in replacing the mill-wheel. "The piston co-ordinates the action of a chaotic mob and transforms a part of the chaotic energy of steam into an orderly motion of the piston and of all the machinery connected with it. The piston is a co-ordinator."[1]

Such creative co-ordination is the function of true religion, true government, and true education. But such co-ordination results neither from the formalities of religion nor from the mechanics of government. Neither can it result from mere schooling. The co-ordination and integration of life cannot progress apart from purposive, enthusiastic, joyous living.

The emerging life-curriculum of the junior high school is characterized by singing, eager, spontaneous youths fired by the spirit of successful service to the school, to the home, and to the community. It encourages in each child the utmost freedom to discover his social self—a self that is complete only in wholesome human relationships with his fellows. Only in such freedom is true spirituality possible. It helps each child to adapt himself to the beauty and rhythm of a busy community

[1] Pupin, Michael: "Creative Co-ordination." *Scribner's Magazine*, 82:14–753, August, 1927.

life. It thus enlivens young people in order that they may enlighten themselves. It is a school in which teachers and pupils are companions and in which all worthy experiences are joyful.

The junior high school has faith that youth is the creative age of the spirit and that in a home-like, friendly, joyful, uninhibited atmosphere children will grow in all those traits that make for integrated and co-ordinated satisfying individual and group living. In a word, it treats children as though they were responsible members of society. It believes they can be that; it believes they are that—and *that* they become.

This is the essence of democracy. For democracy is first an urge, next a faith, then a sanction, and finally, it is potentially a success. Democracy as a way of life aims at the common good through the highest development of each individual;[1] such also is the function of the junior high school. Democracy must be judged by its ability to make every citizen a creative leader in some enterprise, however small, and at the same time a contented but critical follower of superior insight in other fields, however extended; by this criterion alone can the results of the junior high school be finally evaluated.

"Democracy is a sort of deliberate madness. . . . It is the determination to treat people as if they were what you know they are not. . . . There is only one way that you can get a man to be intelligent, and that is to believe that he is intelligent." [2] The junior high school believes that every normal boy and girl is not only intelligent, but happy, eager, co-operative, ambitious, honest, and frank; it believes that each one has reserves of initiative, abilities, and leadership. The junior high school *conditions the reactions* of each one; and the miracle is worked. Each one finds his best social self.

[1] Cf. Smith, T. V.: "Democratic Leadership." *The Science Monthly*, 21:613–628, December, 1925.

[2] Meiklejohn, Alexander: "Democracy and Education." Address at N. E. Ohio Teachers Association, Nov. 11, 1927.

CHAPTER II

SCOPE AND OBJECTIVES OF THE EMERGING CURRICULUM

The junior high school is an expression of a very revolutionary conception of education. Its emergence from the grammar grades and from the freshman year of the four-year high school may be likened to a biological mutation in the plant or animal world. A new type of institution has appeared, markedly different from, and one hopes, definitely superior to its forerunners; at least, it is superior *in its possibilities for service* to our industrial, political, and social democracy.

In the development of progressive types in organic evolution, the new form is always in grave danger of being swamped out by competition with the greater numbers of the conventional types. In somewhat similar fashion, this new and promising institution, the junior high school curriculum, is in the gravest danger of being "swamped out" by the more numerous and more generally accepted "subject"-organizations.

During the last decade there have been junior high schools in which conventional academic subjects and class procedures have actually gained apparently permanent positions. Progressive education is nowhere more critically threatened than in the triumph of the folkways and traditions in the junior high school curriculum. It becomes increasingly important, therefore, for pioneering faculties to adventure bravely with a philosophically justifiable conception of the curriculum.[1]

[1] Cf. Glass, J. M.: "Curriculum Practices in the Junior High School and Grades 5 and 6." Especially chapter II, "The Need of Scientific Reconstruction of the Curriculum." University of Chicago, 1924.

Such an adventurous attitude means that we must look skeptically and challengingly at the demand for *continuity* of the programs of study in elementary, junior high, and senior high schools. We must not *continue* subject-matter or practices which are not justified by social needs or which are psychologically wrong.

The conventional elementary school is hobbled by traditional requirements of abstract arithmetic, grammar, chronological history, and fact geography; but the junior high school need not "continue" such practices unless we are sure that they are of vital significance to boys and girls at the dawn of adolescence. The senior high school curriculum has been until recently shackled by prescribed "laboratory" science, abstract mathematics, English classics, and foreign languages. Such prescriptions for all high school pupils are rapidly disappearing. It surely is stupid for the junior high school to "continue" in its core-curriculum practices which the senior high school has itself been obliged to discontinue.

As an intermediate transition step for the establishment of a new junior high school the plan suggested by Glass in his report to the National Council of Education in 1923 is feasible. But this should be recognized as only a first step. It should be followed, year by year, by much more radical modifications based on local studies of pupil interests and activities and of adult and community needs.

So long as we attempt to reform the curriculum of the junior high school by modifying in some slight way the conventional subjects, we make little practical gain. Arithmetic and algebra have been made a little less remote and abstract; English language instruction is too frequently almost as dry and futile as it was twenty-five years ago; instruction in social sciences and natural sciences is still often characterized by words memor-

PRIOR TO INITIAL ELECTIVES	PERIODS A WEEK	FOLLOWING INITIAL ELECTIVE
English.....5	1	English.....4
	2	
	3	
	4	
	5	Social Studies.....4
Social Studies.....5	6	
	7	
	8	
	9	General Mathematics.....4
	10	
General Mathematics.....5	11	
	12	
	13	Science.....3
	14	
	15	
Science.....3	16	Fine and Practical Arts....4
	17	
	18	
Fine and Practical Arts....5	19	School Health.....3
	20	
	21	
	22	
School Health.....3	23	School Activities.....3
	24	
	25	
School Activities.....3	26	Elective.....5
	27	
	28	
	29	
Guidance Instruction.....1	30	1

[1] Adapted from Glass, James M.: "Program of Studies." Reorganized Seventh, Eighth, and Ninth Grades. Reprinted in Lyman-Cox: "Junior High School Practices." Laidlaw Brothers. P. 119.

ized and cited back to teachers—even though given a superficial laboratory setting, and even though the recitations are of the so-called "project" or "socialized" types. Indeed, industrial arts, home economics, hygiene and nutrition, physical education, music, and art are in constant danger of stultifica-

tion through "standardization" and by the acceptance of stupid conventional objectives. Demands are actually made that courses of study in these newer fields be graded, embodied in text-books, used as "problems for reflective thinking"—in a word, that they be removed from the realm of realities to the limbo of formalized abstraction. These stereotyped practices, the legacy of a dead past, are thus seen to be in conflict with the conception of the curriculum which underlies the junior high school.

What Are the Characterisitics of the New Conception of the Curriculum? In the activities of the emerging curriculum there are at least two unique characteristics: (1) Not only do conventional subject distinctions break down;[1] but also curriculum and extra-curriculum distinctions tend to disappear. (2) The emphasis is less on the knowledge and definite skills that all pupils shall get from the curriculum, and much more on what *they shall want to know, to do, and to be.*

In other words, the new curriculum is so selected, organized, and operated as to introduce the extra-curricular spirit into the curricular subject-matter. The children lead within the institution a life composed of activities classifiable both as curricular and as extra-curricular; in whatever activities each pupil is encouraged to undertake, he is believed to be capable of success. In the new curriculum the pupils get the same "kick" out of venturing in the realms of mathematics and social sciences as groups of them now do from orchestra rehearsals, football practice, stamp-bartering, corridor duty, and dramatics. These latter activities are just as "hard"; they involve routine, but they thrill pupils because they are *real.*

If one were disposed to be pessimistic, he might even fear

[1] Cf. Glass, J. M.: Op. cit. Especially chapter VI, "Subject Divisions of the Constants."

that the conventional schoolmaster was reaching out to seize the extra-curriculum activities and to devitalize them by setting them up in school time, with compulsory attendance, uniform procedures, and by giving to remedial instruction classes the name "clubs," but keeping them organized as classes just the same. If we are blessed with optimism instead—and if we are not we have little place in the new education—then we may see in this curricularizing of the extra-curriculum, the opportunity for vitalizing the curriculum. We may, indeed, see in the incorporation of life in the curriculum, the doom of all subject-matter and practices that are not a part of life.

"Except as the school is a typical, embryonic community, its training must be partly formal and partly pathological." Thus spoke Dewey two decades ago; and the truth of it we are just now realizing in the more progressive junior high schools. Unless there is a present felt need for learning, then lessons have to be extrinsically motivated by marks, punishments, flatteries, "honors," and such deferred goals as college admittance. In such a formal, unreal school environment, many pupils are constantly failing in some artificial skill or knowledge or behavior. These "failing" pupils require or seem to require pathological treatment—diagnosis, remedial drill, and discipline.

What Underlying Conditions Control the Curriculum Emergent? If the junior high school is to be a typical embryonic community, what are the implications for the junior high school curriculum?

First: The junior high school must accept and make provision for all pupils who are in any respect so mature that they can profit more from the reconstruction of experience in the junior high school environment than they would from continuing in the elementary or special school. This implication is so

obvious that it would seem to need no argument or explanation. Surely, the school can be of little help to those boys and girls who are not reached by it and influenced by all the means at its disposal. If this influence is to be effective, it is of course necessary that an extended period of membership in the junior high school be assured to all children; hence, their acceptance must not be postponed until they are on the verge of dropping out of school.

Second: The acceptance of responsibility for these groups of children calls for most painstaking study of their characteristics; especially the characteristics of those whose divergencies from normal intellectual, emotional, and physical behavior make them "problem children." For these divergencies, when once understood, make clear the great need for the development of method and control suited to many widely varying kinds of children.

There are at least three important aspects of this problem:

(*a*) In native, abstract, verbal, problem-solving intelligence, the pupils vary from "dull-normals" to "near-geniuses," so that subject-matter and methods that are desirable with the one extreme are quite unsuited to the majority, and utterly wrong for those at the other extreme of the distribution.

Similarly, the ranges in the pupils' chronological ages, in their physiological developments, in their emotional characteristics, and in their previous scholastic preparations will be so great that careful adaptations of experiences and achievement standards must be most carefully worked out.

(*b*) Across the range of emotional, physical, and intellectual behaviors, cut other variables. There are significant differences of mechanical ability and interest, differences of capacity for social adjustment and leadership, differences in executive ability, differences in artistic, musical, dramatic expression and

appreciation, differences in athletic enthusiasm and ability, differences in social inheritance, and differences in present environment. In a busy and creative community, every junior high school child finds some means by which his specific interests and abilities permit him to express himself constructively in his school and extra-school activities. Thus only can he grow in self-reliance and initiative.

(*c*) How greatly children vary in their psychological and physical development is too widely recognized to need comment. Unfortunately, a large part of our "scientific curriculum makers" and research workers take little account of these facts. Standards of work for grades, grade-placement of material, logical organizations of subject-matter do not square with our knowledge that the "boy grows one end at a time like a colt." In a word, the outstanding requirement of the junior high school organization is that it respect the unique personality of each individual, that it use every means in its power to arouse the desire to know, to do, and to be, that curriculum opportunities encourage him to be a contributor to social welfare and to express himself through media in which he will be most adequate. To the extent that the school can help the child to participate confidently in the total life of the school, the problem of knowledges and skills will care for itself.

Third: The last major implication of society's demands on the junior high school has to do with objectives of junior high school education, and with their organization into learning units. Such an organization makes possible the placing of major responsibility for the attainment of each objective in the hands of one or several teachers. These teachers would then strive to stimulate and direct their children to achieve the knowledges, interests, and skills needed to approach the goal set. To accomplish these desired ends they would co-operate, of course,

with teachers seeking other goals. At the present time, there is a vast, needless duplication of material and effort, and an uncertainty of responsibility for appreciations, civic activities, college entrance standings, technical skills, and the rest. Coordination of effort and clarification of objectives is a needed step to further progress.

The Core-Curriculum Contributes Directly to the Universal Attainment of the Seven Functional Objectives of Junior High School Education. The core-curriculum includes unspecialized activities which aim to promote for all pupils the attainment of seven objectives. How pupils should be segregated for these activities, whether by sub-grades, intelligence quotients, curriculum choices, or whether they should be segregated at all is a moot question. The answer is to be found in the optimum conditions for universal participation and success. Experience alone can be our guide in this. Seven functional objectives of the core-curriculum will determine the groupings of activities.

1. *Associational Living:*

The first group includes those activities and experiences calculated best to promote for all children habits and attitudes essential to associational living. Home-room activities, assemblies, participation in school control, lunch-room, free play, club organization, and similar group co-operative undertakings illustrate the activities leading to the objective of better associational living. These activities are characteristic of all vitalized junior high schools, but unfortunately they are too seldom recognized as a vital part of the curriculum. But to the boy and girl it is immaterial whether the experiences are gained under one classification or the other.

2. *Civic Attitudes and Knowledges:*

The second group of unspecialized activities consists of those which stimulate knowledges, interests, and skills necessary for

a critical, active understanding of and behavior in relation to social institutions. Here *should be* included social science; but too frequently the social studies tend rather to inculcate docile acceptance of socially approved fictions and mind-biases than to promote intellectual curiosity and independent judgments. Our social institutions are inherited from the past; some of them like slavery have been examined and discarded; some like taxation are likely to be with us for a long time to come. There may be a presumption in favor of these social institutions that have persisted in the long course of social evolution, but there is none so sacred that it cannot be honestly examined. It is because we have faith in the fitness and worth of our Constitution, the family, most rules of courtesy, and public education that we should be most anxious to avoid mere indoctrination and arbitrarily imposed "credos." In the world, the values of all institutions are increasingly subject to reconsideration; the man or woman who believes, but knows not why he believes, in an institution is on uncertain ground. He may be potential Ku Klux Klan material; he may be a potential bolshevik. Democracy's firm foundation is flexibility and honest inquiry. Democratic institutions cannot be made safe—if by safe we mean unchanging.

3. *Wholesome Living:*

The third group of core activities includes those which promote the habits, attitudes, ideals, and knowledges of importance to better individual and community health. Here are found instruction in hygiene, nutrition, responsibilities for clean school-grounds, lunch-rooms, class-rooms, toilet-rooms, and for swat-the-fly drives, and the like. Physical education, in so far as it is planned to promote better emotional, mental, and physical health, has of course a major responsibility. How far formal gymnastics and uniform dress in gymnasium promote

health is questionable. It seems likely that even posture is more dependent on self-assurance than it is on formal exercises.

4. *Language Arts:*

A fourth objective for all pupils to achieve so far as possible is a command and confident use of language tools. Language is more than the basis of communication; it is, indeed, the very stuff of which thought is made. Hence, the ability to read rapidly and accurately, to listen attentively and understandingly, and to speak and write freely and confidently are essential both to communication and to adequate thinking. In the core-curriculum, attention must be given to direct practice in communication and thinking in ways that are used in the world in and out of school.

5. *Scientific Interests and Related Mathematics:*

A fifth objective is the promotion of pupils' interests in the important relationship between science and man's progress and his civilization. What man's place in nature is, the history of his biological environment, what uses he makes of natural laws and materials in preserving his health, maintaining his civic control, rearing his family, and enjoying his leisure—these and many other significant aspects of man's struggle with nature are to be understood and appreciated so far as feasible by all children. Only through such experiences in laboratory, in library, and in class-room as will cause children to wonder, to ask questions, and to try to find answers to their questions, can such a significant intellectual and appreciational goal be reached. To this end, some acquaintance and skill with the instruments and language by which man measures, counts, expresses, and computes are important. One such instrument is of course mathematics, but for the great body of pupils mathematics is not an end; it is merely an instrument.

6. *Appreciations:*

An appreciation of beauty and of the more "spiritual" aspects of man's natural and social environments is the sixth objective of the "core-curriculum." The means required for the achievement of this objective are very much more subtle than those that are essential to the first five. Such appreciations cannot be materially promoted by assertions, by study of rules—by any fixed course of study in fact. Appreciations in so far as they are not gifts of original nature are caught from associations with others who are affected by some aspect of beauty. Any obviously premeditated and systematic campaign is likely to result in more or less polite and perfunctory acquiescence by the adolescents. Skilful interpretations of literary, musical, and pictorial artistic productions, sufficiently obvious in sentiment or artistic merit for the pupils to grasp, help greatly in making enthusiasms contagious. Such emotional states as are associated with love of home, with affection for companions, with loneliness, and with such natural phenomena as sunset, moonrise, or breaking waves form rich backgrounds for stimulation of appreciation—provided, of course, that these emotional states have been previously experienced. If they are not known by the children, efforts to arouse them by vicarious experience with story or picture or song or drama are relatively futile.

7. *Practical Arts:*

The last of the core-curriculum objectives includes practical skills and the desire to be helpful and capable in the practical arts—the use of the common tools of the home and of similar unspecialized social institutions. The desire and ability to sew, to cook, to repair, and to construct in connection with the activities of home and school and neighborhood are of greatest importance in the normal functioning of these institutions.

How much time should be assigned for various activity groups in differing communities, this program does not pretend to assert. Inadequacies of pupils would imply needs for special emphases. Community resources and opportunities for co-operative enterprise would justify greater stress on one phase than on another. But obviously no one of these objectives can be slighted in any community, for in every community these activities exist among children and adults and in no community are children adequate to contribute in all of these fields without some guidance and re-enforcement by the school.

More or Less Specialized Activities of Two Types Should Be Promoted. In addition to the core-curriculum, two types of *variables* should be offered:

1. *Social Utility and the Fundamentals:*

Pupils whose mastery of the skills which are necessary for the activities of the core-curriculum is insufficient should be given diagnostic tests and corrective instruction with the teachers as partners of the pupils in overcoming their deficiencies rather than as arbitrary drill masters.[1] Efforts and skill diverted from the drill-task and turned to arousing pupils to want to do with all their might those exercises which will help them to overcome their deficiencies will be energy well spent. There is joy in drilling with the football coach because he is the boys' partner in winning games; that same joy can be and with some teachers is present in spelling and arithmetic drill. In such cases the teachers are partners in helping pupils over objectively determined hurdles.

2. *Elective Opportunities:*

For all pupils there should be curriculum enrichment through elective opportunities in sciences and mathematics, in language

[1] Cf. "Manual for Junior High Schools." Pennsylvania Department of Public Instruction, Bulletin No. 14, 1925.

and literature, in music and art, in commercial, home-making, and industrial arts.

In elective subjects all compulsion should cease; compulsion is almost certain to defeat the end that it seeks. But elective work should be preceded if possible and surely accompanied by constant educational guidance. Failure due to lack of ability or failure due to lack of interest necessitates conference and very likely curriculum changes.

Elective work should consist of spontaneous, joyous adventures; such adventures typify the ideal spirit of the junior high school more truly than the core-curriculum can. To learn how to talk and read French; to discover why the radio can interpret electric waves so as to reproduce the inflections of the human voice that is speaking at the very instant several thousand miles away; to fathom the mystery of the slide-rule or the electric toaster; to be able to type one's composition; to create a beautiful chair or table; to prepare luncheon for one's friends; these and many similar adventures into various fields of learning are potentially joyous in themselves. Let us not confuse "joyous" with "soft" or "easy," and let us not confuse "hard" with "disagreeable" and "stupid." Children like intensive and hard work if it be adventurous and joyous; they hate stupid and disagreeable work whether it be hard or easy. Interest and effort are not only compatible; they are indeed essential to each other.

Finally, the elective work should be creative and social as well. Elective opportunities should make a maximum contribution to the creative school control. In assembly we should expect to find contributions from every group. The school publications should be largely the work of elective groups in expression in journalism. The office work should be largely conducted by the commercial elective groups; records, finances, text-

books, library accession-books, supplies, banking, and special funds will give all the junior business training that is needed, and the experiences will be meaningful. Elective home-making and art classes should contribute to the decoration of the school, to costuming and stage setting of dramatics; the art pupils should plan the class banners, cover designs for magazines, library book-plates, insignia for corridor officers, posters for entertainments, drives, and the like. Elective home-making groups may serve teachers' luncheons, may indeed in smaller schools have charge of the pupils' noon-day luncheons, and may undertake many out-of-school co-operations with their own families, with elementary schools, with day nurseries, hospitals, and other social institutions. Elective industrial arts boys may construct and repair school equipment, construct laboratory and mathematics-class models, make copy-holders, filing-devices, and other equipment for commercial classes, charts and bulletin boards for the school, *ad infinitum*.

Summary. To be adequate, to be competent, to contribute to social life, to be esteemed and to have self-esteem, to desire to have a part in life, to have an active interest in life—these are attributes of the good life. Russell defines the good life as one inspired by love and guided by knowledge. The junior high school comes that children and adults may have more abundant life.

Neither college entrance demands nor senior high school faculties shall continue to distort the junior high school curriculum—if only we ourselves can once see its full significance and purpose. For many years colleges have dominated the senior high school curriculum and up to now the senior high school has largely dominated the spirit and method of junior high school curriculum.

The junior high school is a social mutation. It is potentially

the most fundamental and promising institution that has grown up in American life since our fathers instituted our federal government. This government itself is another great social mutation that has had to fight and still has to struggle to rescue itself from visionless people who fear the social experiment on which we are all of us engaged.

We are just beginning! But if we can see clearly and act bravely, our contribution to the progress of civilization will be immeasurable. The junior high school can be a preparation for a more adequate social life than any that has yet been known, if only it can reproduce within itself situations that are typical of a purified and idealized society—a truly creatively controlled school environment.

CHAPTER III

EDUCATION FOR ASSOCIATIONAL LIVING

Education is a social process. This statement is generally accepted. But relatively few schoolmen, and even fewer laymen, seem to grasp its meaning as a functional definition. And yet, if it were truly conceived and made the guiding philosophy of our schools, it might well result in fundamental reconstructions of our educative policies and practices.

If education is social in its processes and in its goals; if otherwise, it is not education at all, what would the implications for secondary education be? Obviously, it would mean that Latin recitations are not education; working algebra examples is not education; the memorization of books about history for purposes of passing examinations is not education; performing physics experiments in order to "write them up" in a note-book is not education; and parsing sentences, learning lists of spelling words, practising ovals, and the rest of the solemn class busy-work of the school are not education at all. Surely, if this simple definition is to be accepted, its premises must be examined with care.

Our Original Emotional States Are Socially Conditioned. The individual has no existence apart from the group to which he belongs. Group activity is the beginning, the means, and the end of both conscious and unconscious education. The fundamental emotional state of contentment underlies all human development. From birth the instinctive reactions associated with this emotional state are almost exclusively social. Thus, social approval and social conformity become basal factors in

happiness and complacency. In analagous manner, the original emotional states of fear and anger obviously become socially conditioned until the scorn of one's fellows, or even of unrelated by-standers, becomes a most powerful annoyance and destroys equanimity and complacency.

It thus becomes increasingly true as the child grows up that in the group he lives and moves and has his being. He is a social animal. Solitude, long continued, is very unpleasant; ostracism is unbearable. Conformity is satisfying; approval and admiration are thrilling.

Man's activities are the man himself—"*Im Amfang war der That,*" said Goethe. Hence, conscious education consists primarily of activities in which groups of pupils and adults participate either actively or as spectators. As members of these groups, they admire or scorn or are indifferent to the behaviors and achievements of others. For each boy and girl, formal education is a controlled evolutionary process; certain behaviors, skills, and informations gain the approval of teachers, classmates, parents, and the public; others may arouse their scorn; and to still others they may be indifferent.

Some of these groups may approve while others scorn the same behavior or skill. It then becomes a competition between group influences. Thus, one boy desires to be a great football player, another a musician, and a third a Latin scholar. This desire depends partly on the degree of significance that is attached by each pupil to the approvals and scorns of newspaper sport-columnists, of a selected group of adults, or of academic school teachers, and partly on each one's adequacy or competence in gaining these approvals in one field or another from a group which to him seems significant.

The social self is the only true self—it sets the patterns and standards of behavior which alone satisfy us. It is the most

important factor in education. It is promoted and guided only by associational activities. The most important function of the school is to help each pupil to identify himself with a worthy social self.[1] This is peculiarly the function of the junior high school.

The Supreme Importance of Social Behavior Demands Social Education. For that educational instrument which is most important and significant, it *must* be the first business of the school to provide time and energy and guidance. The junior high school curriculum cannot omit or postpone conscious participatory educational activities unless it would become as empty and futile as the conventional senior high school curriculum has been.

How futile is the excuse often given by administrators for the lamentable failure in some schools to make such provisions! "Our schedule is too full of subject-matter," they say. "Our teachers are already over-worked with subject-matter classes; social education must be left to outside agencies; it is not our affair; our hands are full teaching them grammar and history and mathematics."

If education for worthy associational living is most needed, then the junior high school curriculum will first provide for it, and when such time and teacher direction as is necessary has been arranged, then will provisions for other important aspects of educational activities be made.

Home-room Groups, Clubs and Teams, and Classes Afford Opportunities for Initial Social Education. In progressive junior high schools primary, face-to-face groups meet daily in home-rooms and are encouraged to undertake experiments in controlling their locker-rooms, their room libraries, their at-

[1] Cf. James, William: "Psychology—Briefer Course." Henry Holt & Co., 1892. Chapter XII, "The Self," is a classic exposition of this interesting topic; the chapter is vigorous and charming.

tendance and promptness, their games, their assembly exercises, their social services, and their discipline. In these and many other regards these groups are autonomous. Similarly, clubs, councils, general and class assemblies, pupil publications, athletics, and even class-room procedures are promoted and evaluated largely in the light of their contributions to social experiencing and the evolution of worthy social selves.

At Washington Junior High School, Rochester, New York, the home-room plan received its initial emphasis; it has developed there in perhaps too uniform a manner.

Each room has five officers. The room president is class leader, the presiding officer at all class meetings, the teacher's proxy during her absence, and the agent for library campaigns and other school enterprises. The vice-president is business manager of all home-room activities and as the "safety first" representative inspects and remedies menaces to sanitation and health. The secretary-treasurer is in charge of school reports and of all communications with the office, is custodian of class funds, and is in charge of savings accounts and thrift stamps. The usher is a reception committee of one to receive visitors, and to escort them through the building. He also leads his group in passing through the corridors, being required on his own ingenuity to extricate them from corridor congestion. The deputy is in charge of group discipline, dismissing the class, and maintaining the order of his group in the corridors.[1]

At the Oliver Wendell Holmes Junior High School, Philadelphia, Pennsylvania, the home-room units are known as "chapters" of the Industrious Civic Union.

The pupils of each chapter elect their representatives to the civic bodies known as the Council or the Administrative Committee, the Department of Public Works, the Department of

[1] Lyman, R. L.: "Washington Junior High School, Rochester, N. Y." *School Review*, vol. 28, no. 3, March, 1920. Reprinted in Lyman-Cox: "Junior High School Practices."

Public Safety, the Department of Sanitation, and the Department of Social Welfare. During the home-room elections, as in all of the school, two principles are of current emphasis: first, the significance of responsibility in choosing capable delegates to the governing bodies; second, the readiness of every individual, whether an elected officer or not, to give himself unreservedly to the public weal.

. . . Every Friday each teacher conducts personal conferences with the pupils of her own home-room. Such guidance periods are strictly confidential; no visitors are permitted to attend them; even the principal of the school makes a point of not entering a room during the final hour on Friday.[1]

At the Ben Blewett Junior High School, St. Louis, Missouri, the home-room advisory period was given a regular place in the seventh grade schedule—somewhat greater in time allotment than was given to any other "subject." The pupils were regularly with their advisers five minutes at the opening and five minutes at the close of school each day and sixty minutes in the middle of every school day. During these advisory periods there were no subject-matter lessons—though classes occasionally were helped to prepare lessons with which they were having difficulty. Chiefly, their activities during these home-room periods dealt with the class's problems and responsibilities. The home-rooms and their sponsors became associated in common enterprises and so there developed mutual loyalty and pride in group teams, group assemblies, group records, group reputation, group mottoes and name and songs and secret formulas, group resonsibility for property, discipline, and the welfare of all members, and group pride in the

[1] Lyman, R. L.: "The Guidance Program of the Holmes Junior High School." *School Review*, vol. 32, no. 2, February, 1924. Reprinted in Lyman-Cox: "Junior High School Practices," and in Cox: "Creative School Control."

individual achievements of its members. All these common aspirations and successes—and occasional disappointments and sorrows—integrated the group and evolved worthy social selves for every individual.

Teacher-Advisers of Home-room Groups Are Guides, Philosophers, and Friends of Their Pupils. By taking advantage of the situations which arise in connection with such aspirations, co-operations, competitions, and conflicts within the group, the alert and sympathetic teacher is enabled to gain a position of very great influence in promoting the self-education of his charges. He comes thus to know his pupils through their behaviors; indeed, this knowledge is itself too subtle and intimate to be written down on cards. Such knowledge is quite the most important achievement that the teacher can gain.

Supplementary equipment consists of information and technics for using it, both in gaining a fuller understanding of each child and in helping him to express himself confidently and adequately as artist or athlete or scholar or executive or tactician or poet or story-teller or comedian or musician. Knowledge of physical needs, of scholarship records, of mental and achievement test results, of nationality, of economic-social status, and of out-of-school activities is potentially of great significance. But such informations must never be substituted for behavior-knowledge which is primary and fundamental.

Adequate fulfilment of the advisement function is most likely if teachers have four major equipments:

(1) An appreciation of the social organizations of the community, their increased complexity, their inertias and traditions, the rapidity with which in reality they are changing, and the varying force of their sanctions. Interacting with the school in the lives of the junior high school children are homes and neighborhoods and churches and industrial institutions and

economic conditions and nationalistic, racial, religious, and other folkways and *mores*.

(2) An interest in the nature of pupils at the dawn of adolescence, the psychological equipment with which they must make their intellectual, emotional, physical, and social adjustments. The biological inheritances of these boys and girls are challenging—their growth and maturation, the changes in their glandular and circulatory systems, the rhythm of their lives, the uncertainties and hungers and awkwardnesses that are so hard to interpret and which demand so much understanding and patience. Respect for and comprehension of the "ego-impulse," the "self," the unique personality of each pupil, is required. There is necessary a recognition of the pupil's will as "the expectation of success," and of his need for social approvals. Teacher-advisers must understand the mental and emotional conflicts of youth and their resulting "escapes," sublimations, day-dreaming, auto-eroticisms, enureses, nightmares, cruelty, bullying, failures, and breaches of discipline; these symptoms are characteristic of inferiority complexes and of a failure of the self to feel adequate. Above all, the teacher must realize that every child has in some degree and in some form a potential spark of genius, and that, if he can only lead each pupil to make the right contact, *universal victory is possible*. For this is the fundamental dogma of democracy; to it, as school-masters in the service of democracy, all must subscribe.

(3) A frank recognition that the pupils' out-of-school lives are frequently, perhaps generally, more significant controls of behavior and attitudes than is the school. If the school is to function as a directive instrument of society, it must co-ordinate its efforts with the out-of-school organizations with which the pupils are in contact—homes, gangs, Scouts, moving-pictures, athletics, newspapers, dances, and the rest—so that it

may re-enforce, guide, offset, and direct the activities of youths in their out-of-school lives. For if it neglects them or attempts to oppose them directly, it encourages divided lives, and perhaps, a choice of loyalties which may not favor the school.

(4) A readiness on the part of each teacher to accept responsibility for sponsoring the efforts of his pupils; for only by these means can a partnership and personal loyalty between pupil and teacher develop.

Teacher-Advisement Demands a Democratic School Administration. Such responsibilities cannot be lightly assumed by the class-room or home-room teacher; nor can they feasibly be delegated by the administrator to the teachers unless he is able and ready to decentralize his school organization. The conception of advisement and guidance set forth in the preceding pages depends upon a democratization of educational administration and a recognition that adequate personnel work demands freedom and time and energy.

It demands that teachers must be responsible for a relatively smaller number of pupils; this is peculiarly true for those teachers who deal with dull-normal and maladjusted children. It demands at least a period a day when the teacher is free from subject-teaching so that he can deal with personalities without arbitrary distractions involved in subject-mastery and "covering of ground." It demands frequent home-room periods when the teacher and pupils may deal with problems and projects in which the group feels pride and community of purpose —the organization of a ball team, the preparation of an assembly, the development of a room-library, the choice of room officers and name and motto and cheer, the care of the locker-room, and so on. It demands a limitation of the departmentalization of instruction with its attendant emphasis on subject-teaching and its necessary increase by geometric ratio of the

number of pupil personalities with which each teacher must deal.

If teachers are to be more than lesson-assigners, lesson-hearers, and mark-givers, *they must be given responsibilities for the education of their pupils*. They must be assured of conditions which make education possible. They must be confident that educational results will be *appreciated and recognized* by their superior officers. It is futile to talk about education as guided growth if the whole of a teacher's time and energy is demanded for subject-teaching and if his adequacy is judged by the results of standard scales or other tests of abstract knowledges and skills.

Guidance and Advisement Are Subtle and Personal. The teacher has or may have a share in many, perhaps most, of each child's school learning-situations. If time is allowed, if initiative is permitted and encouraged in the teacher, he has only to seize upon the opportunities which are made available through his intimate contacts with pupils to use purposefully the tools which are furnished or which may be furnished by the curriculum and the institutional life of the school. Given sincerity, affection, reasonable intelligence, respect for the personalities of the pupils, and freedom and security, almost every teacher will become an effective adviser to the pupils whom he comes to know through their common activities.

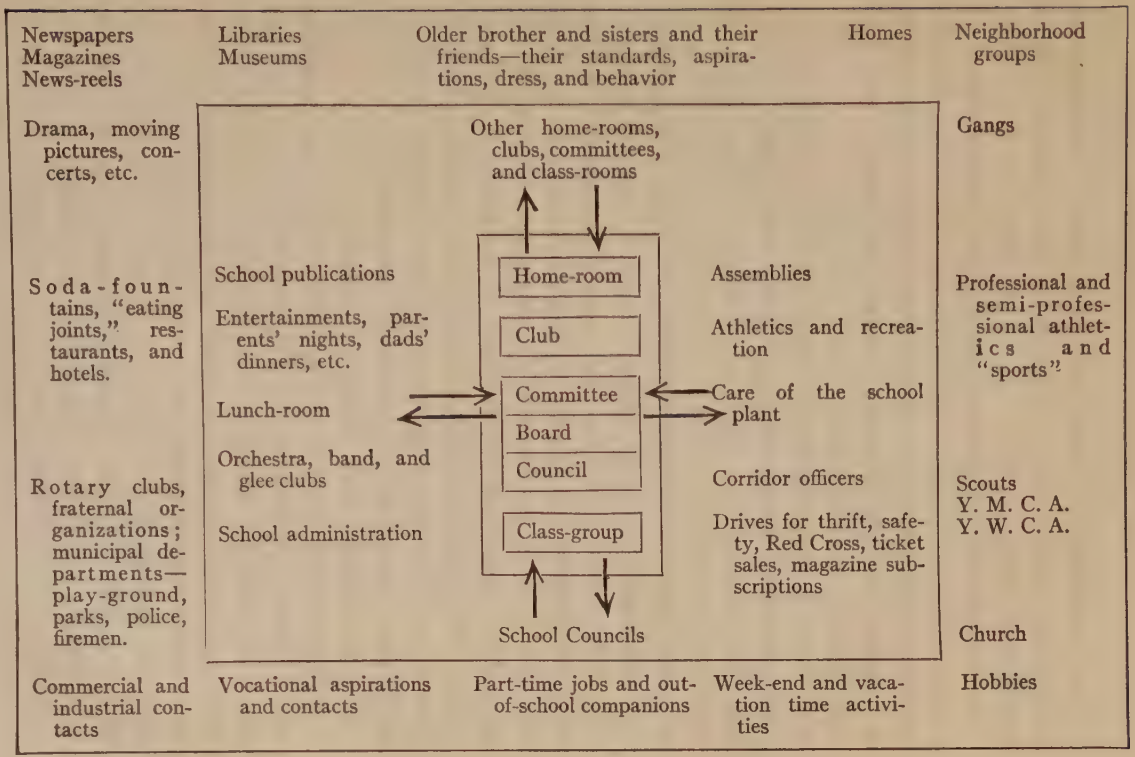
Obviously, the opportunities for such partnership are greatest in the primary, face-to-face groups of the school—home-rooms, clubs and teams, committees, and class-rooms. In such groups, pupils and teachers unite readily to deal with the projects which may be undertaken. In a word, the teacher becomes a member of the "gang"—an older, more sophisticated, somewhat privileged member, to be sure, but, none the less, a truly accepted one.

Such intimate "gangs" have many internal problems and undertakings, but these will frequently arise from, or at least be affected by, the activities of the school and community. The pupils of one class or club will imitate other groups; they will be inspired by rivalry; they will seek the school's social approval; they will be proud of the prominence of any member in general school or community affairs or in his leisure time individualistic achievements.

The wise teacher-adviser may sometimes seek to temper or even to re-shape these enthusiasms, but he will always recognize their inevitableness and will exploit them for the welfare of the group. He will see his groups in relation to the activities of the school and outside communities in some such way as is indicated by the accompanying diagram.

Radical Changes Are Needed in the Formal Curriculum If It Is To Contribute Effectively to Social Education. Under the conventional and as yet almost universal school procedures, the pupil studies Latin to learn Latin; he studies history to learn history; he studies mathematics to learn mathematics. The object of the study of conventional subjects is the mastery of the skills and knowledges of which they consist. They have no other purpose except such as is implied in college entrance requirements or State requirements. It is not much of an exaggeration to say that one studies Latin in order to pass an examination in it; as a result, he either forgets it or teaches it to some one else who will pass an examination in it; and he, in turn, will either forget it or teach it to some one else who will pass an examination in it.

One does not study formal, academic subjects in order to improve his own or the community's health, or to affect his civic, domestic, or leisure time adjustments, or to promote his good will. It is sometimes claimed that these results may fol-


Newspapers
Magazines
News-reels
Libraries
Museums
Older brother and sisters and their friends—their standards, aspirations, dress, and behavior
Homes
Neighborhood groups
Drama, moving pictures, concerts, etc.
Other home-rooms, clubs, committees, and class-rooms
Gangs
Soda-fountains, "eating joints," restaurants, and hotels.
School publications
Home-room
Assemblies
Professional and semi-professional athletics and "sports"
Entertainments, parents' nights, dads' dinners, etc.
Club
Athletics and recreation
Lunch-room
Committee
Board
Council
Care of the school plant
Rotary clubs, fraternal organizations; municipal departments—play-ground, parks, police, firemen.
Orchestra, band, and glee clubs
Corridor officers
Scouts
Y. M. C. A.
Y. W. C. A.
School administration
Class-group
Drives for thrift, safety, Red Cross, ticket sales, magazine subscriptions
School Councils
Church
Commercial and industrial contacts
Vocational aspirations and contacts
Part-time jobs and out-of-school companions
Week-end and vacation time activities
Hobbies

low such studies, but, in practice, achievement in formal subjects is measured always in terms of informations and skills involved in them.

In the case of the newer subjects—physical education, shop work, community civics, general science, and the like—the curriculum practices have frequently improved just to the extent that socially and individually desirable outcomes have been recognized as their goals.

How then should we determine the effectiveness with which these newer subjects are taught? If success in shop work is measured by the degree both of quantity and quality with which students participate in repairing the school building or providing equipment for their homes; if success in household arts is measured by the co-operation with the parents in carrying on the home or with fellow pupils in furnishing luncheon for teachers, pupils, or guests; if success in physical education is measured by improvement in playing games or in spending leisure time in desirable ways; then, and only then, do these subjects serve both as instruments of education and as ends in themselves. The newer subjects have been vitalized in so far as they have measured their successes in terms of civic achievements, scientific interests, and social habits.

The enrichment of the school curriculum and its progressive revision have provided vital learning-situations, and have resulted in the curricularizing of many activities which have heretofore been characterized as "extra-curricular." The school curriculum is thus coming to re-enforce, guide, and direct desirable activities that are intrinsically satisfying to pupils; it is becoming the dynamic instrument for co-ordinating the educational activities of the school and those of the out-of-school lives of boys and girls. The school paper is frequently edited by pupils in their English classes; debate is fostered in

connection with social study and English courses of study; athletic games are organized as a part of physical education; teachers of mathematics, science, and other subjects act as sponsors of clubs for pupils interested in some phase of their subjects.

Extra-school Educative Activities Offer Opportunities and Challenges. As noted above, however, these potent school activities are not limited to the in-school interests of the children; they constantly exploit the pupils' interests in the affairs of the outside world. The daily newspapers and the magazines, the theatres and concerts, the aviation feats and the radio, the political campaigns and the economic issues of the day, all find their way into the enriched educational activities of the school. The school thus reaches out into the community to co-operate with the beneficent social agencies and to compete with or to offset any practices considered detrimental to the welfare of the pupils or of the general community. The educational program of the school is, indeed, frequently affected profoundly by the interests and activities fostered by the Boy Scouts, the public library, the Y. M. C. A., the art museum, the Red Cross, the park commission, the chamber of commerce, and similar official and unofficial agencies. The school wisely utilizes such interests and activities to encourage the pupils to participate in the more socially significant forms of activities that the community fosters.

On the other hand, by setting up desirable habits and attitudes the school endeavors to counteract the contacts with ugliness and the dishonesties of life, such as the low ideals of some professional athletes, and the unhealthy sex consciousness encouraged by many modes of social behavior. The school is thus adapting its curriculum to all the activities in which adolescents of the community engage.

School and Community Life Is the Social Curriculum. In the vitalized junior high school, education becomes the continuous reconstruction of experience. Knowledges, interests, and habits are being developed or modified, increased or decreased, because these traits function as ways of behaving. If they are valuable they are more frequently and more vitally called on to serve again and again as the pupils gain in social experience.

Even the conventional subjects are frequently enriched and redirected in harmony with this new educational program. If pupils are frequently engaged in the preparation of assembly programs, in working out papers or talks to be given before clubs, in debating questions in the advisory period or before the student council, then the class instruction in oral and written expression frequently becomes a highly motivated and intensive reconstruction of experience. This is true even though instruction in English expression is somewhat formal and, to some extent, is abstracted from the situations in which these skills are normally applied.

If pupils are engaged in various forms of social service, such as those involved in the duties of the junior police, in the preparation and distribution of baskets of food at Thanksgiving, in acquainting pupils who are absent from school with the progress of school work, and in many other similar services, the civics class may become a place where pupils learn to carry on civic activities adequately and where reflective thinking regarding the purposes and limitations of such service may be developed.

If pupils' interests in the beautifying of the school grounds, the adornment of the assembly room, the making of charts and posters in connection with school entertainments or election campaigns have been stimulated, then it is in the art classes

that the pupils are enabled to evaluate this work and to learn how to improve it. Similarly, chorus and band and glee club and orchestra may galvanize music classes into life.

These school activities are typical of those of social life. The decoration of the school is closely related to the decoration of the home or of the church; the school social service is very similar to that conducted by the Scout organization or by the Sunday-school class; the need for adequate expression is present in one's correspondence, in the reports he makes, and in the explanations he gives. The school curriculum may, therefore, be directly effective in promoting the social efficiency and the worthy uses of leisure of the pupil outside and beyond the school.

The all-important function of the effective junior high school curriculum is, indeed, that it stimulate the pupils to engage vigorously and constructively in the worthy activities of home and playground and church and Scouts and the rest. By means of such a correlation of effort it is most probable that pupils will desire to apply the knowledge and skills that have been promoted by school experience. If we wish civic, domestic, and economic efficiency, and worthy use of leisure to be the outcomes of education, then it is most important that the school be not content with social efficiency in the school alone or with the worthy use of school leisure. It is even more important that the school make every effort to extend its influence to affect the pupils' present extra-school life—in their homes, in their neighborhoods, as earners and spenders, and in their use of leisure time.

Social Education Is Fundamentally Affected by Informal Group Practices. Education in associational living has been developed through many ages by means of imitation and play and by means of the inculcation of certain habits and attitudes

by the family and other informal groups. How we shall treat the aged and the weak, how we shall and to what degree we shall accept the conventions—the shaking of hands, the rising when a lady enters the room—how we shall feel toward foreigners or people of a different race, how loyal we shall be to our brothers and sisters, how zealously we shall protect family secrets, these and many similar attitudes are built up as *mores* of the family, the gang, the neighborhood, and other extra-school social groups.

Boys and girls develop their social traits to a great extent as members of informal extra-school groups. Boys, because their leisure time has been less closely supervised, have belonged to "gangs." Girls' clubs or "sets" are similar to boys' gangs in their motivation and in their effects on attitudes and behaviors. The chief differences between boys' and girls' groups are due to the social pressures exerted by the community *mores*. Unlike boys, girls cannot roam the streets and the woods, they cannot have secret hang-outs and huts without feeling the scorn and protest of an outraged adult sentiment. The social and economic value and persistency of a girl's reputation have generally made parents more watchful of the associations of their daughters than of their sons. A report of Lehman and Witty has, however, indicated an increasing tendency of adolescent girls to associate in more or less definable "gangs." [1]

Gangs May Be Constructively Employed by the School. A recent study of gangs in relation to the Chicago school playgrounds reported by Thrasher showed that of the 226 gangs in playground areas, 21 were girl-gangs. The total number of gangs ranged in average ages from 9 years to 21. One hundred and six gangs, or nearly 43 per cent, were of the strictly junior

[1] Lehman, H. C., and Witty, P. H.: "Some Findings in Reference to the Gang Interest." *The High School Quarterly*, vol. 15, no. 1, October, 1926.

high school age-years, 13, 14, and 15. Social settlements, public playgrounds, and a relatively few alert public schools have dealt constructively with these potent social agencies.[1]

A gang which has found its chief challenge in outwitting society's instruments, particularly the police, is mischievous and destructive when young, and vicious when it grows older. But 50 per cent of the 226 gangs referred to above were actually a part of the playground groups. With sympathetic and persistent efforts some playground supervisors gained the cooperation of practically all the gangs in their neighborhoods. One of them reported: "I could not get along without my gangs." Another said, "I have formed an athletic and social club. This has united all the gangs into one big gang and I lead them myself."

In all junior high schools are boys belonging to gangs to which their members owe loyalty. In connection with these gangs they are learning social attitudes and behaviors. If the school's social program is clearly thought out and efficiently executed, it, too, becomes one big social club and, in a sense, the pupils unite into one big gang, so far as the school's activities are concerned.

The true gang is, however, a primary face-to-face group. It becomes lawless only when it finds itself in conflict with society. The junior high school does not so much dissolve extra-school gangs, as it sets up within the school so satisfying a program of home-room and club activities, so vigorous an athletic and governmental schedule, such varied curriculum offerings, that all pupils, individually and in groups, find their places and know that they have found their places in the school's social scheme. For these activities they are adequate and in them they find satisfaction in effective effort.

[1] Thrasher, F. M.: "Social Backgrounds and School Problems." *Journal of Educational Sociology*, vol. 1, no. 3, Nov., 1927, pp. 121 ff.

In this earnest, happy, and eager environment children are, within limits, free to do what they will. But certain it is, such freedom will be seldom abused. The glorious opportunities for social and individual experiment, for giving rein to curiosity, for thinking things out and inventing new forms for assemblies, for traffic regulation, for organizing a home-room library, are too attractive and satisfying to be neglected. Anti-social conduct or neglect earns the scorn of one's fellows, both pupils and teachers. Progressive innovations and social co-operations are welcomed by social approval. Disciplinary difficulties all but disappear. If, occasionally, malfeasance does occur it calls not so much for official correction or repression or punishment as for an examination of the social setting that has given rise to the undesirable behavior. This may seem idyllic and unlikely to the reader who does not know the conditions in progressive junior high schools. But he may rest assured that there are not a few such schools in which cases calling for corrective discipline are so rare as to be negligible.

The School May Utilize or Offset Extra-School Educational Opportunities. There are some human associations which, on the whole, may be quite satisfactory. The scout organizations, the public library, the museums, the traffic police, and the juvenile courts may function quite adequately without the co-operation of the school. Nevertheless, the school, if it is wise, fosters the closest co-operation; it re-enforces by its approvals the programs of these adequate social institutions and invites a corresponding re-enforcement from them.

On the other hand, there are many social institutions with which junior high school pupils come in contact that are less adequate in the changing civilization of which we are a part. The apartment-house family, some intolerant ecclesiastical groups, such informal play groups as hang around the car

barns, pool rooms, and corner stores, are examples of such institutions. The opportunity for re-enforcement and competitions of the activities of such groups is very much more challenging and difficult.

In some school systems pupils are dismissed to attend religious instruction provided the parents ask for it and the churches provide it. In many of the best junior high schools, after-school and Saturday play-groups are conducted and in a few cases the play-rooms or the gymnasium of the school are kept open for recreational purposes. Such provisions constitute direct effort to co-operate with desirable agencies and to compete with obviously undesirable social institutions.

School credits or approvals for home co-operations have been promoted less frequently in recent years than they were a decade and a half ago, although the reasons for discontinuing such co-operation are not clear. Indeed, it is unfortunately true that with the coming of the junior high school there has often been an actual increase of the formal lesson preparation to be done at home. In such cases, the school, by unduly interfering with home life, has not supported or helped family co-operative undertakings. If home-work were assigned only by the industrial arts teacher, the home economics teacher, the art teacher, the music teacher, and the literature teacher, then the normal activities of the home could be given formal recognition by the school. Instead of the stupid system of assigning lesson-getting at home in algebra and geography, the school might better direct its efforts to supporting the home.

Association with Adults Is Important for Social Education. From time immemorial man has passed on social skills, attitudes, and ideals by associating the youth with selected adults —nurses, tutors, priests, or other approved guides. The Spartans sent their male youths into a juvenile army. The Athe-

nians sent theirs to Ephebic communities. The African negroes send their children into the "Bush." For the same reason sectarian schools are frequently chosen by devout church people. Similarly, many parents select special boarding schools in which their children will come in contact with adults who exemplify the manners, faiths, attitudes, and "cultures" with which they wish their children to be brought in contact.

The public school in an unselected community must send its children into an unselected out-of-school environment. If, however, pupils are encouraged to associate themselves with adults in the community who exemplify desirable manners, faiths, attitudes, and "cultures," it can accomplish equally desirable results. It is thus that the transfer of school learnings into the community life may be established.

What the Pupil Desires To Do and To Be Is of Primary Importance. The educational element of most importance, if such transfer of attitudes and habits is to be effected, is the pupils' *desires* to achieve to a maximum degree these ends. Hence, the school must take into account the social approvals to which the pupils may be encouraged to respond. Such approvals are accorded by the most enlightened adults of the community. The pupils are most likely to continue to desire the modes of behavior promoted by the school if they associate with adults and older youths who approve of tolerance, of home co-operations, of initiative, and of self-reliance.

Man plays his part before a selected gallery. If the pupil goes through school performing socially desirable activities both within the school building and in co-ordination with the social agencies outside the school, he is constantly selecting a gallery before which he will play his part. He is selecting the *mores* which shall be dynamic throughout his life; he is building up attitudes, emotionalized by his love of school and by his

sentimental attachment to these older companions. These emotionalized attitudes, these group-approved standards, and his personally selected gallery will condition his desires in many, if not in all, his present and later experiences.

These desires, and hence these attitudes, *mores*, and friendships, become dynamic factors in the later reconstructions of the youth's experiences. "What one desires to do and to be, to make of himself, is the important thing now and hereafter."[1] For if one desires with all his heart a certain result, every time that he achieves it, it gives him the profoundest satisfaction, a satisfaction based not only on self-approval, but quite as much on the applause of his real or imaginary gallery. Whenever the result is not achieved, there is an annoyance which arises both from his emotionalized attitude and from the disappointment of members of his gallery.

In the highest stage, conduct is no longer modified in the light of actual consequences—in the interests of securing the approval or avoiding the disapproval of members of the immediate group. At this stage the drama is performed not before the limited spectators which crowd the house, but before an imaginary gallery peopled by the prophets, priests, and seers in whose ideal presence the individual has chosen to live. Not by arbitrary etiquette, by convention, and herd morality of "his set," but rather by those great precepts, admonitions and ideals—the distillate of the wisdom and heroism of the ages—is his conduct shaped.[2]

A Changing World Requires Inquiring Minds. Adjustment to our social and economic environments is amazingly simple or amazingly complex according to whether we are curious, thinking, questioning, challenging individuals or stolid, more

[1] Hart, J. K.: "The Plastic Years." *Survey Graphic*, April, 1926. Reprinted in "Light from the North." Holt and Co., 1927.

[2] Chapman, J. C., and Counts, G. S.: "Principles of Education." Houghton, Mifflin, 1924, p. 129.

or less effective beings who do what we are told, who accept the world as it is and as it may become, who take the present status of plutocracy and "Society" to be established and permanent, and who are indifferent to, or very short-sighted regarding, the future of the community, of democracy, and even of our own children and grandchildren.

Intellectualizing these problems in the curriculum of the junior high school is the problem with which the next chapter deals. Because of the taboo on economic and political questions, supported as it is by an insuperable partnership of ignorance, tolerance, and cupidity, the school may be obliged to continue in *social science* to teach the capitals of states, the heights of mountains, the exports of Argentina, and the physical geography of India. These topics are safe and futile and arouse no antagonisms. Until the public will support or, at least, permit a program of enlightenment, then the school must teach verbalisms instead of thinking in social science.

Seldom is any question raised in the community, however, regarding the pupils' behavior responses to problems of social adjustment. The social life of the school develops many problems of intrinsic significance. These problems call for reflection and action and are far more significant than are reflection and discussion when no action is possible. The school can consider the wisdom of granting felt "letters" like the athletic "letters" to outstanding scholars and citizens, and actually do something about it. The school can deal with problems that develop in connection with traffic congestion in the halls, with unsportsmanlike conduct on the athletic field, with incompetence of the business manager of the school paper, and the rest. The student-body can and will face these problems with the determination to work out a better state of affairs. Moreover, they can succeed; and this success assures a readiness

and confidence to attack the next problem with the expectation of success.

The supreme opportunity of the school and of its newly conceived curriculum is to encourage pupils to set up situations typical of social life and to encourage pupils to deal with these problems for themselves, realistically, experimentally, open-mindedly. Pupils in such schools will soon get the attitude and habit of dealing effectively and diplomatically with their fellows. They will take account of the mental and emotional states of the other pupils. They will be patient, and tolerant, and ready to compromise the present for the sake of the future greater good.

They will be ready to analyze the obvious—for the school surrounds them with obvious things that need analyses. Why is tardiness considered a misdemeanor? Why must one prepare assignments daily instead of the more economical process of doing three or four at one sitting? Why may not one cut class with impunity if he is worthily engaged elsewhere? Why must all girls take sewing and all boys take shop?

Such questions may shock many principals and teachers, who never have given any thought to these questions themselves and who expect children to accept standardized solutions and never to question them. The present generation of adults has been trained and stupefied by just such acceptances of conventional judgments.

But in home-rooms, open forums, editorial columns, and student councils, pupils should be encouraged to analyze the obvious and to consider no school regulation too sound to be challenged and a better regulation formulated and proposed. Some day, if enough schools will persistently and resourcefully and intelligently and tolerantly promote such a program, we shall have an adult population that will be neither complacent

nor furious in a world ruled by special interests and inertia; instead it will be persistent and resourceful and tactful in challenging our regulations and in proposing and urging better ones. Repeated successful efforts at social betterment develop into the will to improve social conditions. And *this is the hope of the world of to-morrow.*

Socialization of the Curriculum and College Admittance. Social participation is the primary college entrance "subject" offered in the junior high school. Colleges are rapidly coming to a sympathetic recognition of the junior high school's problems. They are either freeing the ninth grade of responsibility for specific college entrance units, or they are wisely emphasizing the quality and character of the work in the eleventh and twelfth grades when determining scholastic standings for eligibility for college admittance.

Far more significant, however, is the searching inquiry made by progressive colleges in all sections of the country, regarding the moral and social traits of candidates. If one can glance ahead into the future a little way, he will see that the most important college entrance requirement, both for admittance and for success as a college student, will be the joyful, adventurous spirit, a desire to do whatever promotes self-fulfilment within the group. When that day comes—and who can doubt that it is already close at hand?—we shall no longer worry whether pupils can get into college if they spend their time in educative social activities; rather we shall know that they will surely be unable to get into a worth-while college if they do not learn at home or in school to contribute, to serve, to lead, to meet failure bravely and success modestly.

Of course, colleges do not give actual entrance credit for activities as such. They ask questions which they believe will throw light on pupils' "personalities." But personality is

merely the sum total of attitudes, interests, habits, assurances, and the like. And because man is a social animal, his personality develops most completely in his social environment. It is in the school that our small group virtues give place to larger group virtues.

Summary: A Program for Dealing with This Problem. As has been explained earlier in this chapter, the most significant curriculum provision for the promotion of associational living is the home-room advisory group, assigned a regular class period for the seventh grade at least, and for one or more days each week thereafter. The adviser should certainly meet his group every day at the opening and if possible at the close of school and should teach them as a group at least one subject.

The major function of this group-adviser relationship is the promotion of adequate behavioristic adjustment of the pupils through social projects in which the group purposes, plans, executes, and evaluates measures for school or individual improvements. Openness of mind and respect for all persons are the basic ideals and they are the test for all other ideas and acts in connection with the projects in which the home-group engages.

In the activities of the home-room advisory group, the teacher-adviser may become the philosopher, guide, and friend of each one of his pupils. By taking advantage of the opportunities which are open to him as partner in the efforts of each one to express himself as artist, athlete, scholar, executive, or tactician, the teacher-adviser may help each pupil to grow in physical and mental health, in civic, home, and vocational adjustments, and in the uses of leisure time. The attainment of such objectives by the pupils requires repeated successful practice under guidance.

In addition to the home-room group's activities, associational living is promoted by athletics, clubs, assemblies, pub-

lications, student governments, and such social co-operative endeavors as are implied in the improvement of the school grounds, Safety First Drives, and the rest.

Athletics may be promoted and controlled both through the physical education and health program and through inter-grade, inter-club, and inter-home-room contests. Clubs may meet in regular school time, if an "activity period" has been provided or during the lunch hour or after school; club membership should be voluntary, however, for compulsion is almost sure to defeat the purpose of the clubs to stimulate spontaneous and joyful adventure in creative expression.

Assemblies of the entire school are sometimes desirable; as a rule, however, the individual grades (in large schools sub-grades) form more homogeneous and satisfactory groups. Programs and problems which are of immediate interest and appeal to the assembly audiences are important if group unity, worthy citizenship, general good will, and worthy uses of leisure are to be encouraged most effectively.

Publications should not be limited to a school paper or magazine issued by a class in journalism or a school board of editors. Home-room bulletins, club and subject-class papers may be typed or mimeographed or even written by hand, and posted on the bulletin board. The co-operation and social judgment involved in such projects and the approvals accorded to pupils whose efforts are thus recognized make of the student publications a very potent instrument for encouraging and guiding the efforts of the pupils, both as individuals and as groups.

Pupil participation in school control is potentially a very significant engine for social betterment. Unfortunately, faculties and pupils are likely to be very impractical in this matter. It takes time and patience to build up a school spirit and a program of general school activities that will justify central

councils. In the early days of democratic control, the student government should be decentralized; home-room groups, clubs, junior police, and the rest, should be autonomous (under guidance of teacher-sponsors). Only when conflicts frequently occur and when general school problems arise frequently should student councils be encouraged. Councils which do not have any real reason for meeting and acting are make-shift and impotent. "Student courts" are frequently replicas of one of society's most unsatisfactory anachronisms—hunting down and punishing "criminals" instead of trying to improve conditions so as to make violations of law improbable.

Such social challenges as the need of books for the library, the beautification of the school grounds, the improvement of lunch-room conditions, better traffic conditions in the corridors, and the like, furnish very real reasons for councils, home-rooms, clubs, junior police, teams, and all other organizations to organize effectively and act efficiently. Such problems rather than "constitutions" and "councils" should be exploited to co-ordinate the school's social resources.

Real problems there are and they are of great importance to the members of the school community. As students reflect and discuss and act to solve these problems, there develops a habit of success which becomes a potent community-will for a better world.

CHAPTER IV

CIVIC ATTITUDES AND KNOWLEDGES

Constantly human beings are under the pressure of the *mores*, the "accepted" judgments, the "correct" behaviors, the "recognized" procedures. The "herd mind" does not always distinguish between the selfish, anti-social individual—the thief, the ruffian, the seducer, the exploiter—and the pioneer and experimenter who seeks more healthful and intelligent conditions for himself and those in whom he is directly interested. The crowd punishes with its ridicule, scorn, anger, and sometimes by formal punishments—jail, exile, and even death—those who depart from the expected and generally approved conformity.

With increasing urbanization of population and nationalization of sentiment, with quantity production of standardized clothing, residences, entertainments, foods, and luxuries, there has been an increasing standardization of economic and political thinking and social behavior. The school must, therefore, stimulate its pupils to be open-minded and frankly critical of all accepted modes of acting and socially approved attitudes. This does not mean that pupils will be encouraged to be non-conformists very frequently; it does mean that they should know why they conform if conformity is desirable.

To what degree high school students accept stereotyped judgment on social-civic questions is shown by a study made by R. W. Keahey and N. D. Conners of the University of Wisconsin.

A list of fifty questions was prepared and submitted to thirty-two leading political scientists who agreed as to whether

they represented truth or error. Results of the questionnaires showed that 52.5 per cent of the high school students subscribed to the "nineteen inaccurate concepts most inaccurately held." A study of the text-books used in the history and civics classes in the schools in which questionnaires were answered showed that the text-books could not be blamed.

The nineteen false conceptions which more than half the students accepted as being true are:

1. The best remedy for all evils is to pass laws prohibiting them.
2. The United States has the most democratic government in the world.
3. Political bosses and political machines should be abolished.
4. One function of the United States government is to guarantee every man a living.
5. A good Republican administration means prosperity.
6. The Republican party should not be held responsible for the conduct of Fall and Daugherty, since crime is personal.
7. The voice of the people is the voice of God.
8. Any person criticizing a decision of the Supreme Court of the United States is not patriotic.
9. Those who oppose the initiative and the referendum are undemocratic.
10. A protective tariff always means a full dinner pail for the American workman.
11. The inheritance tax is designed to reach the property of the rich.
12. The men who talk against war when war is near at hand, as in 1917, are unpatriotic.
13. America has always dealt squarely with all nations.
14. When a man has become a good official but has served two terms, it is best that he retire and let someone else have the office a while.
15. Every citizen of the United States has the inherent right to vote.

16. America has no selfish interest in securing the protection of Germany and France.

17. All socialistic principles in American government should be abolished.

18. The Constitution of the U. S. prohibits the collection of export duties.

19. The United States Congress and high officials have always taken the most progressive action for the betterment of the United States at home and abroad.

. . . The investigators asserted that the American people do not want their children taught the truth and that many history and civics text books are being written for the purpose of getting them generally adopted rather than for the dissemination of truth. [1]

Sceptics regarding the salutary effects of formal education generally emphasize the difficulties which face public servants —teachers and administrators—if they encourage pupils to question the accepted judgments of their communities. It seems to them that the community is in the position of a man trying to lift himself by his boot-straps, that intelligent, critical open-mindedness on the part of youth will never be supported by an adult population which must judge the success of the school in terms of its own standardized concepts and attitudes.[2]

It is a hopeful sign that liberal and critical opinion in many

[1] "Civic Ideas of High School Pupils." Editorial in *The School Review*, November, 1926, vol. 34, no. 9, pp. 650-652.

Cf. Meltzer, Hyman: "Children's Social Concepts." T. C. Contributions to Education, no. 192.

[2] Robinson, James Harvey: "The Mind in the Making." Harper and Bros., 1921.

"Under former conditions . . . he (man) established certain standards and practices in his political, social, and industrial life. His views of property, government, education, the relations of the sexes, and various other matters he reaffirms and perpetuates by means of schools, colleges, churches, newspapers, and magazines, which in order to be approved and succeed must concur in and ratify these established standards and practices and the current notions of good and evil, right and wrong. This is what happened in the past, and to the great majority of people this still seems to be the only means of safeguarding society." Page 179.

fields is being tolerated by the rank and file of the adult population more readily than was the case some years ago. In the fields of æsthetic, recreative, purely intellectual and scientific activities, new modes of expression are indeed pretty generally approved. In art, drama, literature, dress, and dancing, in philosophy, in invention, indeed, in any sphere of human activities wherein vested institutions do not feel themselves threatened, progress and experimentalism receive the social sanctions.

It is still difficult, however, for a tax-supported school to deal in other than a stereotyped manner with problems involving economic, industrial, or political institutions. A vocal and insistent and politically powerful group of "business-men," their wives and other beneficiaries—editors, Y. M. C. A. secretaries, golf-club managers, political henchmen—become active in challenging teachers who encourage or even permit the open discussion of economic, political, and other social questions which are unsettled, or which these powerful groups prefer not to have talked about.

The fear of such criticism and attendant loss of promotions causes teachers and administrators to "play safe." This fear unfortunately re-enforces a tendency on the part of teachers to teach children by means of both the content and the method with which their own school work has made them most familiar. It is both easier and safer to teach the undisputed "facts" of geography, history, and civil government than it is to deal with really vital questions of current social affairs. To stimulate and direct a class in the study of immigration conditions, the World Court, the prejudice against a Roman Catholic as a presidential candidate, or even the case for international trade agreements, require vastly more intelligence, initiative, resource, and effort than is required to teach dates and lists of official duties.

The adults of the community who pay great attention to prize fights, murder trials, and marital gossip, but who are only mildly interested in election campaign scandals, in violations of laws, in official favoritism, and even in official dishonesty are not content to have their children dealing with questions which they do not themselves understand and to which they pay only casual attention. There are, however, in every community, many interested and intelligent fathers and mothers who are socially alert. In such homes children do hear problems that are vital to the community's welfare discussed; in such homes are books and magazines that consider frankly and fearlessly questions that the "Babbitts" settle out-of-hand. In many schools are socially intelligent teachers who need only the encouragement of their superior officers and of forward-looking community groups to embark on a program of the application of scientific attitudes to specific social questions, to help pupils to attempt to find solutions of social problems in connection with their history, civics, and human geography. Indeed, such practices will often be undertaken by junior high school children as serious and thrilling adventures into the world in which their heroes live. In their history and literature, in their experiences with the drama, in their contacts with current affairs of city, state, nation, and the world, they constantly are in touch with men and women who command respect because they have dealt intelligently with human affairs.

Creative Reflection Is Improbable If "Right" Answers to Problems Are Already Known. History, geography, and civics must be recast so that no questions are settled before pupils get a chance to deal with them. What would have been the result if the Confederacy had won the Civil War? What difference in our national developments would have come about if a

new and independent nation had grown up on the Pacific coast? If Blaine had beaten Cleveland for the Presidency in 1884, what difference would it have made? Should the length of the junior high school day be increased? Here are questions which admit of no final answers. No teacher can mark pupils "right" or "wrong" on the opinions they hold, but they can grade them on the quality of their reasoning, on their uses of all of the facts that may bear upon the question.[1]

This is just what social contemplation amounts to in life. There are few final "rights" and "wrongs." Socially intelligent adults deal with current problems and draw tentative conclusions. They seek the opinions and follow carefully the arguments of writers and speakers who are peculiarly well qualified to deal with the questions but who differ in their judgments. They suspend their own judgments and modify them from time

[1] In a recent issue of the *Maryland School Bulletin* devoted to an outline of a course in history for the elementary grades, "Goal 5" for the seventh-grade marks a distinct advance in the type of question asked:

5. Ability to express an opinion and to give one or more reasons for the opinion on questions such as these:
   (*a*) Looking backward in the light of history, would you have been a Federalist or a Republican if you had lived in 1795?
   (*b*) Was it wise to grant freedmen the right to vote just after the Civil War?
   (*c*) Do you think the right of normal adults to vote should ever be limited?
   (*d*) Which do you think was the more important military operation, Sherman's march to the sea or Grant's campaign against Lee?
   (*e*) Are iron mines or gold mines more valuable to a community?
   (*f*) Is it an advantage or a disadvantage to our country to have one party control the presidency, the House, and the Senate?
   (*g*) Do you think a nation could be democratic without education and without devoting a great deal of attention to politics?
   (*h*) Is there anything questionable about the way in which we acquired the Panama Canal Zone?

—Reprinted in *The Elementary School Journal*, March, 1927, p. 487.

to time. But seldom up to the present time have our schools dealt effectively with the problem at all.[1]

The most thoroughgoing and systematic attempt to promote such problem-solving as is projected above has been made by Rugg and his associates. They have undertaken to determine what social problems the present secondary population will have to deal with now and in the years to come. For this purpose they have utilized the judgments found in some one hundred and fifty outstanding critical works in contemporary problems. It is their endeavor to examine society as a process; they are not content to deal with the shortcomings or needs of an apparently static society. They would endeavor to guide pupils and give them the specific practices by which they may improve the situations in which the pupils will find themselves as adults.

. . . We need, of course, to prepare our youth adequately to participate in life activities. That, the studies of current activi-

[1] . . . If the average boy and girl could be walled off from all ideas and information about social affairs save those acquired in school, they would enter upon the responsibilities of social membership in complete ignorance that there are any social problems, any political evils, any industrial defects. They would go forth with a supreme confidence that the way lies open to all, and that the sole cause of failure in business, family life, or citizenship lies in some personal deficiency in character.

The effect is to send students out into actual life in a condition of acquired and artificial innocence.

It seems almost hopeless to name the remedy, for it is only a greater confidence in intelligence, in scientific method. But the "only" marks something infinitely difficult of realization. What will happen if teachers become sufficiently courageous and emancipated to insist that education means the creation of a discriminating mind, a mind that prefers not to dupe itself or to be the dupe of others? Clearly they will have to cultivate the habit of suspended judgment, of scepticism, of desire for evidence, of appeal to observation rather than sentiment, discussion rather than bias, inquiry rather than conventional idealizations. When this happens schools will be the dangerous outposts of a humane civilization. But they will also begin to be supremely interesting places. For it will then have come about that education and politics are one and the same thing because politics will have to be in fact what it now pretends to be, the intelligent management of social affairs.—"Education as Politics," by John Dewey. *The New Republic*, October 4, 1922.

ties will help us to do. But we need also to prepare them to improve the situation in which they will find themselves as adults. We must equip them to be constructively critical of our contemporary social, economic, and political organization. To do this we need, in addition to knowing what the current modes of living are, three vital types of information. First, we need to know in what respect experts think the current modes of living should be changed; second, what the insistent problems and issues of the day are; third, what the likely problems and issues are with which the growing generation will have to grapple.

But to make the curriculum for a troubled society—as ours surely is—we must bring the growing generation into contact with the most critical problems of that society. And we cannot be content with just that. The present social and political organization is changing rapidly. The most unusual political proposals of one decade become the basis of legislation in the next. So our society is not only troubled and faced with big and insistent problems; it is also dynamic, and our curriculum must be corrrespondingly so. Hence, it appears that a fundamental basis for the curriculum in the social sciences is a statement of insistent and permanent problems. It is not enough to fit our curriculum to the problems and issues of to-day—we must have the courage to use it to meet the problems which teachers predict will continue to be insistent in the adult life of the growing generation. This point of view says, implicitly at least, that the school, among other things, is our most important agency for the improvement of society. It asks: *are we not delinquent representatives of that agency unless, besides making our curriculum keep pace with the changes in that society, we anticipate what those changes are going to be and use the curriculum to prepare children to meet them?*

That is precisely the basis for the experimental work in the social sciences which my colleagues and I are carrying on in the Lincoln School of Teachers College. . . . The theory on which the course has been constructed has evolved gradually as the work proceeded. It is set forth in semigraphic form in the accompanying chart.

The Basis for the Proposed Courses in the Social Sciences:

The insistent permanent problems and issues of contemporary economic, social, and political life.

The basic questions that must be answered before intelligent discussion of the problems and issues of the day is possible.

Episodes, narratives, descriptive, graphic, statistical, and pictorial matter which deal with current modes of living and their historical backgrounds and through which basic questions are discussed and an appreciation is developed of the problems and issues of contemporary life.

The fundamental generalizations which experts in various fields agree are useful guides for the consideration of current modes of living, of contemporary problems and issues.[1]

These examples drawn largely from the field of current social problems must not be taken to imply that history, geography, economics, and civil government have not very important places in the social study program. The interest in current problems has, perhaps, resulted from the relative futility of the conventional teaching of formal history, formal geography, and formal civics in the seventh, eighth, and ninth grades. These subjects have generally been taught as ends in themselves. The outcomes of the study of them have usually been information to be mastered and examined—and then generally forgotten. The law of use and disuse should warn us that great

[1] Rugg, Harold O.: "Problems of Contemporary Life As the Basis for Curriculum-making in the Social Studies." *Twenty-second Yearbook*, part II, chap. XVI, N. S. S. E. Public School Publishing Co., 1923.

See also, Hockett, John A.: "A Determination of the Major Social Problems of American Life." Teachers College Contributions to Education, no. 281, 1927

numbers of facts, learned as facts, with no emotionalized setting, except perhaps repulsion, will almost surely be forgotten.[1]

Social Studies Have Already Attained a Place in the Core-Curriculum. The place of the social studies in the core-curriculum of the junior high school is pretty firmly established. On the one hand, this place had been assured because of inertia; geography and history and civil government were nearly universally prescribed for the old seventh and eighth grades, and community civics had frequently found its way into the ninth grade of many four-year high schools. On the other hand, almost all progressives in education have encouraged the inclusion of generous allotments of time for social studies because the subject-matter has seemed to connote social intelligence and socially desirable attitudes and behaviors.

The influence of inertia has, however, been to keep separate the fields of history, geography, and "civics," with little interrelation between the fields, and to emphasize the memorization and re-citation of text-book material. The influence of the progressives has tended to fuse the fields or at least to correlate them. This is, indeed, the almost universal practice of the pioneer types of junior high schools.

For schools that are unable to take the advanced step of social study adjustment in terms of present and probable future social problems, the fused course by which geography, history, and civics are correlated is a feasible step. By careful

[1] A young man once said to Kold: "I am glad to listen to your talks, but sorry that I cannot remember them." "Don't worry about that," said Kold, "it would be another matter if it were a question of acquiring ordinary information. But it is like that which happens out there in the fields. If we put drain pipes into the ground, we must mark the place in order to find them again. But when we sow grain there is no need to drive in pegs, for it comes up again! You may be sure that whatever you have listened to with pleasure, whatever has really found good soil in you, will certainly come up again when you have need for it."[2]

[2] Begtrup, et al: "The Folk High-Schools of Denmark and the Development of a Farming Community." *Oxford University Press*, 1926.

planning geography will serve as a natural background for civics and history in the seventh grade; history will serve as a similar basis for geography and civics in the eighth grade; and civics will serve as a "carrier" for history and geography in the ninth grade.

Thus, each subject-aspect contributes to the development and progressive modification of social concepts. Familiarity with geographical facts and problems is necessary for appreciation of special relationships, and the interrelation of man and environment; history helps us to get a sense of time relationship and to understand how the social inheritance has been passed on and modified from generation to generation; civics emphasizes present social relationships. The great number of pupils who leave school between the beginning of the seventh and the end of the ninth grade makes it important for the school to look at each day's education for the children as though it were the last. Therefore, no one of the three fields should be postponed until after large numbers have been lost.

The Curriculum Committee of the National Association of Secondary School Principals recommended a plan that should not only be feasible for immediate introduction, but also one that should provide for the functioning of social study education in social life.

Grade 7—Geography. Social, economic, physical geography of the Mediterranean Basin and Western Europe, Latin America, and Eastern North America.

History. (1) Old World background of American history, including the contributions to the social inheritance made by the Egyptians, Babylonians, Jews, Phoenicians, Greeks, Romans, Italians, Arabs, Spaniards, French, British, Germans, Scandinavians, Swiss, Hungarians. and Slavic peoples. (2) The discovery, exploration, and settlement of the New World to 1650.

Civics. (1) Outstanding elements of community life; their origin; local history; migrations. (2) Socially significant current events. (3) Practice in group organizations, room organizations, group slogans, clubs, clean-up campaigns, safety first drives, etc.

Grade 8—Geography. (1) Physical and industrial geography of North America. (2) Territorial development of the United States and geographic influences on history.

History. United States to 1877 (topical rather than chronological treatment). Constant reference to great world movements, political, industrial, and social.

Civics. (1) How we are governed—dramatizations, governmental contributions to public welfare, citizenship activities in school and community life, vocational survey. (2) Socially significant current events.

Grade 9—Geography. World survey, expanding commercial interests.

History. (1) Recent American History treated topically; world relationships. (2) Socially significant current events. (3) vocational survey.

Civics. Elements of public welfare, protection, health, education, etc.[1]

Mr. Roy Hatch of New Jersey State Teachers College, Montclair, N. J., who advised with the author of this book in developing the course for the National Association of Secondary School Principals, has organized his own junior high school work on a very similar basis. Two typical projects are described by Mr. Hatch, as follows:

Two projects recently taken up by my classes are cases in point. One group, a seventh grade, was about to study the French and Indian period in American history. After a brief survey of maps of North America, noting changes in color of

[1] Cox, Philip W. L.: "Social Studies in the Secondary School Curriculum." *Sixth Yearbook*, N. A. S. S. P., 1922, pp. 126 ff.

territory owned by France and England respectively, and after some preliminary reading from Parkman's "Struggle for a Continent" and other outside material they set the following project: "Which Won in the Struggle for a Continent?" We found at the start that it was extremely important to give careful study to the topography of North America. We noted the spread of the French activities, the great stretches claimed by them, and the narrow strip of the English colonies along the coast. Why was Pittsburgh called "The Gateway of the West" and Quebec "The Gibraltar of America"? What was the significance of the great water divide of the Hudson, Lakes George and Champlain, and the Richelieu to the St. Lawrence? How did difference in physical characteristics, the soil, the climate, react upon the lives of people?

After this came the distinction in the character and direction of the war. Single control—autocracy—on the one hand versus the loose central control of the self-governing English colonies. The full significance of Franklin's plea, "Unite or Die," and his attempts to bring a more unified control in his Albany Plan, were discussed. Then came group action—history—and we traced the movements of the contending parties and watched the great wrestling matches on the mat of North America. In five lessons we had "fused" or correlated our subject matter—history, geography and civics or government, and were ready for the factual questions in the Regents examinations.

Another group, a ninth grade, set themselves to find the answer to the project: "How was Switzerland able to maintain her neutrality during the World War?" One day while this project was under discussion a visitor remarked at the end of the hour, "I came in a little late, and although I have listened intently for nearly forty minutes, I do not know now whether this is a class in history, geography or civics." I could not help much in giving him the proper label, but asked in my turn if the project could be answered without study of the geography, history, and government of Switzerland? At least we felt that they were all "grist to our mill." This points out a perfectly

natural and not a dragged-in correlation, a fusion, in fact, of materials from all three fields.[1]

The problem of "fusing," "integrating," or "unifying" the materials of history, geography, civics, economics, and sociology is, after all, a minor one. It is practical and immediate, to be sure; vested interests must be handled; but it has little final importance. It would be undesirable for course-of-study makers to direct their attention to a program of practical compromises so fully as to neglect the more significant undertakings of selecting topics or problems in whatever field they may lie and then of organizing and arranging them in terms of the development of the pupils and of the desirable sequences of subject-matter.

Fused Social Science Courses of Study Must Include Few Precise Facts for All Pupils to Memorize. In making such selections and arrangements, however, we must avoid the over-weighting of courses in the knowledge and "intellectual understanding" side. This is the difficulty, it seems to the author, with the otherwise admirable material issued by Rugg and his associates. Too little attention is given to the satisfactions that pupils may feel in dealing with it. It consists of subject-matter set forth to be learned and tested. It lacks spontaneity and life. It seeks to enlighten rather than to enliven, to impart information and exact intellectual patterns of thought, rather than to "inform"—*to form from within the individual pupil new thoughts, interests, attitudes, and aspirations.*

In speaking of such courses, Mahoney well says:

Too many of the newer courses are exceedingly "heavy." They are loaded to the gunwales with information. They burst

[1] Hatch, Roy W.: "Training in Citizenship." The Citizenship Co., Leonia, N. J. Also in volume of the same title published by Charles Scribner's Sons, 1927, p. 219.

with facts. Calculated presumably to produce better civic behaviors, they will have the effect, rather, of producing mental indigestions only. They are scholarly, many of them. They are beautifully organized. They are good to look at. But they are exemplifications of the theory that the business of education is the business of imparting knowledge, a lot of it.[1]

The Romance of Human Progress Must Be Personally Felt If It Is to Be Meaningful. What we need, rather than these "heavy" courses, is such a romantic challenge as this of Dorsey's:

> Where we come from, what we bring with us, what we do with it and what we could do if we stopped quarrelling among ourselves and used our brains to solve our common problems. . . .
>
> Why is man not as free as he might be? Because his mind is made up; his pride of opinion outweighs his desire to know; he dismisses realities with a "God's in His Heaven—All's right with the world," and neglects the first lesson he ever learned—which is, that he can learn. Because he refuses the dare thrown to him by nature herself: Know thyself; and refuses to heed the warning written across every page of history and strewn across the face of earth itself; the best defense is offense, versatility rather than walls of armour-plate, foresight rather than hindsight. Man alone can set man free.[2]

If boys and girls of junior high school age are to face this problem frankly there are many facts to be learned. But such facts are inherent in the romantic story of how man has stumbled forward, empirically and somewhat blindly, how he has learned to deal with his geographic environment, with the institutions—religions, governments, warfare, commerce, and

[1] Department of Superintendence Fifth Yearbook. "The Junior High School Curriculum," p. 220.

[2] Dorsey, George A.: "Why We Behave Like Human Beings," Harper Bros., 1926.

the rest—that have grown up, stagnated, become an incubus, and have been partly shaken off. This is the background against which the human contemporary drama is being played. And in the human drama every boy and girl, dull or bright, good or bad, has an increasingly active part to play. To know about the drama does not suffice. He must feel it; vicariously, he must participate in it, and, to a degree, direct it. He must feel himself adequate to interpret the motives and results of the actions and their alternatives.

To be concrete, knowledge about Hannibal's invasion of Italy is not enough. The pupil must relive the events, the obstacles, the problems, and the struggles; he must alternately feel himself a Carthaginian and a Roman. He must decide and feel himself adequate to decide why Hannibal crossed the Alps and what would have happened if he had not done so.

Such personal identification with the actors of the human drama is dependent in an important sense on the subject-matter of the curriculum; it is more fundamentally dependent on the outcomes tested by which success in the course will be judged; but mostly it depends on the teaching method by which pupils are encouraged to participate actively in dealing with social problems.

Emotionalized Attitudes toward Social Problems Demand Personal Participations. If history, geography, and civics are to be more effectively taught in the future than in the past, then there must be promoted in connection with their study such emotionalized attitudes as will make it probable that the facts and experiences will be recalled and used again and again in the school and out-of-school lives of the children.

Work of this nature naturally allies itself with the school, home, and community activities of the pupils. If the school is characterized by a creative social life, pupils are already con-

cerned with the social problems in advisory periods, in clubs, in assemblies, in athletics, in connection with the school paper, the student councils, the corridor-control, and with many other social problems. In the pupils' homes are many economic and civic problems, the budget, the division of labor, the provisions for leisure, the ancestral customs and the family's adjustment to changing economic and social conditions. As members of the Scouts, of Sunday Schools, of informal play groups, as users of public playgrounds and of public libraries, the pupils are actively dealing with social customs and questions of vital significance to them. To the extent that such desirable extra-class experiences are lacking, the problem of the social study teacher is more difficult; he must start with the beginning and can expect little re-enforcement. But very seldom are such activities altogether lacking in any community that supports a junior high school.

Some of the methods by which alert junior high school teachers of the social studies are capitalizing the nature of the child, the laws of learning, and the extra-class activities and problems of the pupils follow:

1. *Study of the Local Community.* At Nashua, New Hampshire, the teachers of social studies in the eighth grade undertook a project with their pupils involving the collection, arrangement, and publication of a book dealing with the physical and economic environment, the city's history, government, civic problems, and the hoped-for further development. Each pupil wrote a description of a few paragraphs covering aspects of the following topics: the early history of Nashua, its later history, the public schools, religious, social, and civic institutions, and the industries of Nashua.

A similar project was carried on by the teachers of English in an Indiana High School:

The pupils were given the task of gathering the pioneer history of the community in the form of reports on specific topics. The particular form in which these reports were to be written was left to the originality and ingenuity of the pupils; however, they were free to consult the teachers for suggestions at any time. The pupils were encouraged to interview the older citizens of the community, to examine monuments and relics, and to consult the county and city records, newspaper files, and printed matter relating to the early history of that particular section of the state. In every case the source of the information was to be acknowledged, and quotations when used were to be properly marked.

The reports covered such general topics as: The Character of the Earliest Settlers; Their Language; Occupations; Modes of Life; Clothing; Amusements; Social Customs; Institutions; The Development of Leading Industries; Notable Historic Undertakings; and Biographies of the Citizens Who Had Contributed Most to the Development of the Community. Out of these general reports, such specific topics as the following were chosen for individual themes: The Nationality of Our Pioneers; A Chat with the Earliest Settler; The Making of a Settlement; Cooking in Pioneer Days; The Spelling Bee; The Husking Bee; the Singing School; Courtship in Pioneer Days; Fashions in Pioneer Times; The District School; The Village Church; A Pioneer Lawsuit; The Digging of the Old Canal; The Building of the First Railroad; Trade Barons of the Early Community, etc.[1]

2. *Excursions.* Even where no formal community study as such is contemplated, individual teachers frequently take their pupils on excursions to historic scenes or collections, or to banks, stock-exchanges, water-works, and manufacturing plants. In many classes will be found one or more pupils who have avenues for gaining special information about these points of interest. They may well be asked to arrange for the

[1] Reavis, W. C.: "An Experiment in the Teaching of High School Composition," *The School Review*, vol. 21, no. 8, Oct., 1913.

excursion, to give the preliminary talks and to assist in planning the class illustrative material that should be an outcome of such a trip. Sometimes such "guides" may be drawn from pupils who have not been, and would not otherwise be, cooperative or active members of the class.

3. *Utilizing Home Resources.* Where the questions involved in the course of study have little relation to present local questions and conditions, the pupil activities may still be closely related to their extra-class interests. The parents or uncles or grandparents or neighbors of some of the children have traveled in, perhaps emigrated from, the very section of the world that the social study class is considering. Illustrative material that the pupils themselves bring in—costumes, pictures, furniture, decorations, anecdotes, books and magazine articles, newspaper comments, and the like—all tend to associate the school activities with interests found in homes, libraries, and in other classes.

4. *Library Projects.* When the informal sources have been tapped and found inadequate, a formal library project may well be promoted. Such projects are sometimes presented as supervised study. But this is too narrow a conception both of study and of the library project. In connection with the library work, pupils who lack the knowledge and skill are helped to use the tables of contents, indices, section headings of books and magazines, and such standard reference books as the unabridged dictionary, the encyclopædias, the yearbooks, and the "Readers' Guide to Periodical Literature." As soon as possible, however, both the school and the public libraries should be used for committee researches and committee reports, and for individual pupils' contributions to the class project. The library is a systematized storehouse of interesting knowledge wherein pupils find materials for their individual assignments,

committees may collate their findings and plan the presentation of their reports, and individuals may browse through fiction and other collateral readings that throw side-lights on their class projects.

5. *Motivation.* Such study and pleasurable browsing may be motivated by debates, dramatics, pageants, or lectures prepared by the pupils either for use in regular class periods, or, occasionally, for school or grade assemblies. In the beginning, such occasions may well be formal and assured of public recognition. As soon as feasible, however, they should be deformalized. The debate would be replaced by arguments with only so much parliamentary procedure as is essential to decorum and fairness. Dramatics and "pageants" should be "make-shift" affairs with a minumum of waste motion in making costumes and scenery. The boy, or even the girl, who presides without special costume at a dramatized Federal Convention, is as good a "George Washington" as one dressed in white wig and colonial uniform. In these dramatics, less stress should be placed on the facts that occurred and decisions that were arrived at by the original incident, and more on the reasonableness of the arguments.

To refer to the Federal Convention again. If a pupil argues for representation by states in Congress, knowing that at the appropriate moment he is going to be voted down, the result is mere "play-acting." If his argument is convincing to the class, let them so vote, and draw up such a Constitution as would seem best to them. Nobody knows, or ever can know, that the decisions made in 1787 were the wisest ones to have been made.

6. *Socialized Procedure.* If the social studies are to justify their place in the core-curriculum, they must afford vital social expressions. Pupils should be encouraged to examine critically

but sympathetically all institutions inherited from the past or now apparently in process of evolution. This is as true of compulsory school-attendance laws as it is of conversing in assembly during a violin solo; it is as true of the traffic officer's duties as it is of the rules of etiquette. Intelligent human beings conform to many conventions, even though they may not approve of them; but in conforming, they do not give up their privilege of challenging them. Teaching children that any political, economic, or other social institution is so sacred that it may not be questioned, is to perpetuate a nation of intelligent cynics and stupid fundamentalists.

If pupils are to develop habits and attitudes of initiative, self-reliance, responsibility, and originality in relation to social institutions, they must be led to deal with concrete problems as well as with words. Such problems will be found in significant projects, and in dealing with them pupils should be encouraged to specialize in gathering, organizing, and applying their own data and in sharing their findings with others. From such pooling of resources will arise many honest differences of opinions and each pupil will thus be challenged to maintain his position or interpretation, or else to modify it in harmony with the total human and factual situation involved.

What would you have done if you had been Miltiades at Marathon, with such facts and powers and responsibilities as he possessed? Or Luther? Or a member of the Second Continental Congress? Or Robert E. Lee when he was offered command of the Federal Troops? Or Woodrow Wilson in 1915–17? Here are situations, dramatic enough and realistic enough to challenge any one of us. The decisions actually reached by the men in question may have been right or may have been wrong or partly one and partly the other. Pupils can seek answers only by reconstructing mentally so much of the situations as

their texts and reference books permit. They will not agree on any one answer; even after discussion, probably no unanimous decision will be reached. Splendid! To really significant social questions involving decisions, there are no certain *right* answers.

While committee-procedures may serve well in dealing with such projects as those just cited, or for any similar situations involving the gathering and consideration of facts, such procedures are most significant, because most life-like, when activity-projects are in process. Thus, if a class were undertaking to explain by means of wall-charts or blackboard diagrams the building of the transcontinental railroads, one committee might chart the distribution of English-speaking and of the Indian and Spanish population in the United States at the close of the Mexican War. Another would show the population in 1855, together with the normal trade routes and trails. A third committee might illustrate the instruments of transportation that were in use in the United States prior to 1855. A fourth committee might take up the developments of science, industry, and railroading that underlay this development. A fifth committee might deal with trade and commerce as it existed and the financing of great projects. A sixth committee might deal with feasible routes; a seventh with Indian tribes; an eighth with engineering projects; and so on.

Such committees would not necessarily or even probably all be formed at once. As the pupils worked and as their charts developed and as preliminary reports took shape, new interests and new specializations would appear, and the alert teacher would encourage sub-divisions of committees or even original researches by committee members.

In all such projects pupils should be helped to realize that the contributions of the ages were concerned in the building

of the great transcontinental railroad, that there was no single best route, that other patterns of locomotives, other ways of dealing with the Indians, other ways of financing the railroad, other ways of meeting the engineering exigencies were possible. Decisions were made as a result of many considerations of personal motives and prejudices, of engineering judgments, of political pressures, of availability of labor, and the rest.

Projects Involving Concrete Outcomes Lead to Readiness to Undertake More Remote Projects. The most vital committee procedure is, of course, obtainable when pupils deal with such concrete executive tasks as preparing costumes or working out the dialogue for pageants or assemblies, or drafting plans for better management of traffic in or about school, or for speeding up service in lunch-rooms. It is not a difficult step to take from such a project to the preparation of plans for safety and convenience and beauty in the city or state. The latter are less likely to be put into effect, of course, than the former, but pupils will feel a competence to have opinions based on earnest study of the problems involved.

It is not necessary for pupils in social science classes to limit their activities in relation to community betterment to discussion, however. In the *Fifth Yearbook* of the Department of Superintendence, Frank A. Rexford, Supervisor of Civics in the City of New York, explains the Community Contacts in the New York schools as follows:

Co-operation with the City Departments.—The fire house is one of the civic laboratories. The firemen are glad to explain their job to the pupils, They give demonstrations and teach civics classes how to assist them in protecting the city against fire.

The Bureau of Weights and Measures loads an automobile with apparatus used in testing scales and balances and sends

it in charge of a capable lecturer to any school that may be studying that particular subject. The Department of Water Supply, Gas, and Electricity prepares a readable pamphlet for the schools and loans slides for demonstration purposes.

When there is an unsightly vacant lot that a particular school decides to clean up, the Street Cleaning Department sends trucks and sweepers to work with the school in making it clean and beautiful. Trips are taken through the public markets and pupils learn of the regulations under which food comes into the city. The postmaster of the city invites classes to pass through the dead-letter office where acres of bundles and thousands of letters are sent because of poor wrapping or insufficient directions. The heads of the city departments meet with the teachers and explain the workings of their jobs. They also send speakers to assemblies in the schools when asked to do so.

Working with Civic and Welfare Associations.—Even though society is critical it also wants to be helpful. The great number of civic, welfare, and social organizations that exist in every community is evidence of this. Among those which have been helpful in the co-operation work of New York's civics classes are: The Merchants Association, The Child Welfare Society, The Roosevelt Memorial Association, Rotary Clubs, Lions Clubs, Kiwanis Clubs, Co-operation-in-Government Committee, Mothers' Clubs, Federation of Women's Clubs, Society for Self-Government, and the League of Women Voters.

. . . . . .

The Merchants Association and Block Captains—The Merchants Association is interested in keeping the city orderly and clean. It has asked the children of the high schools to join with the police, the street cleaning, the tenement house, the health and the fire departments in regard to certain ordinances which are repeatedly violated because of carelessness. Each child is asked to look after conditions of a certain city block.

Those who volunteer for this work are appointed as block captains. They are given badges and little books of ordinances printed in three languages. Where they can, they correct the

violation. In most cases the matter is reported on a monthly report blank to the Merchants Association which does the follow-up work. Each report sent in is given a percentage mark at the Merchants Association and is sent to the civics teacher who averages it as a part of his regular school work. There are over five thousand block captains actively at work at the present time.

Are Pupils Interested in Community Contacts?—Do young people become interested in these activities? They do if we give them actual jobs and do not keep referring to them as future citizens. They are citizens now and have been for years. It is clearly our duty as citizens and as teachers to recognize them and give them some real work in the world to do.[1]

7. *Lectures.*—While primary importance in efforts to attain desirable community participation and civic attitudes has been given to pupil activities, there are properly times when the teacher will take direct control of the class. Even the somewhat tabooed lecture has its place in the junior high school if it has been properly prepared and if it has a definite relation to what the children do and feel.

Most frequently such lectures will be illustrated. Such illustrations may consist of lantern slides, moving pictures, stereoscopes, or pictures and diagrams taken from books and magazines and either enlarged on wall charts or blackboard drawings, or mounted on bristol board to be passed around among the children.

A lecture is a form of broadcasting, however, and only pupils who have "tuned in" will derive much benefit. If many pictures or stereoscopes are used, they either should be alternated with the lecture, or else, the lecture must keep pace with the appearance of objects in the pictures. This latter is not

[1] Department of Superintendence *Fifth Yearbook*, "The Junior High School Curriculum," pp. 270–272.

difficult and is very effective, provided the instructor is well acquainted with the picture and does not try to direct attention to the beauties of the mountains in the background at the very moment that action is going on among people or moving objects in the foreground of the picture. Some moving picture devices can be so controlled by the instructor that they can be stopped at any moment, giving the effect of a stereopticon. Such a device is valuable both because it allows more time to point out significant geographic phenomena or points of interest, and because it breaks the rhythm of action which tends to lull the mind into a state of inertia.

Two other warnings must be noted in connection with the lecture, however: (1) They must not degenerate into talkativeness with reminiscences and digressions that bear only remotely on the purposes of the class meeting; and (2) they must in every case be followed up by some activities on the part of the children. Lectures, thus, serve best as motivation for the attack on some general problem, giving hints as to desirable class organization in dealing with it. They may also be very useful at the end of a project in showing how the reports might be organized as descriptive narratives or as brief biographies of representative men and women of the period.

Tryon has advocated, in the case of history, that the teacher organize a brief story giving an outline of the most significant incidents and developments of the period. This story the pupils learn almost by heart, and recite it occasionally in class. It thus serves as an outline or thread which assures the orientation of their further studies.

Modification of Content and Method for Ability Groups. In most of the larger junior high schools, pupils are grouped for academic subjects on the basis of native intelligence, frequently modified by other factors, such as school success,

social maturity, and health. In schools where such grouping does not exist, provisions are generally made within each class group—if they are made at all. The social studies, despite the proposed and practiced enrichments in content and procedures, are to a controlling extent "book-subjects." As such they involve a good deal of silent reading and reflective contemplation.

Now, this ability to use symbols—words, maps, diagrams, and statistics—is closely related to the mental attributes which have been, somewhat narrowly, termed "native intelligence."[1] Hence, it is obvious that much more can be accomplished with high ability sections than with low ability sections in the book aspects and reflective thinking aspects of the social studies.

The variation in subject-matter and method to provide for pupils of differing original ability should always be made with the narrowness of the usual definition of intelligence in mind. In the case of children of higher "intelligence," emphasis should be put on the consultation of books and the verbal expressions by the pupils of their own cogitations. In the case of pupils of less ability in verbal, abstract thinking, emphasis should be put on social, mechanical, and artistic expression and interpretation. There are, of course, verbalisms to be memorized ("facts" they are called) by slower sections; and concrete expressions should be encouraged in the bright sections; the latter are generally provided for adequately, the former are too generally over-emphasized. Thus, a typical history assignment given to illustrate the "flexible assignment" to provide for individual differences, in Simpson's *Supervised Study*

[1] Cf. Cox, Philip W. L.: "Curriculum Adjustment in the Secondary School." Chapter IV contains Rugg and Colloton's resumé of investigations of correlations between intelligence and achievement in various tests.

in American History, illustrates this too narrow conception of differences.

I. *Minimum Assignment* (written work):

1. What was happening in France about the time Washington was inaugurated?
2. As a result of the French Revolution, what enemies did France gain among the nations of Europe?
3. Give one reason why France was confident of aid from the United States.
4. How was Citizen Genet received by the American people?
5. What did he do and with what results?

II. *Average Assignment* (written work):

6. Why did Washington issue a proclamation of neutrality at that time?

III. *Maximum Assignment:*

7. Write at least two paragraphs contrasting the United States of 1793 with the United States of 1917, as to her standing among nations of the world.[1]

This assignment makes reasonable provision for reflective reading, thinking, and verbal expression by the very able pupils. So far, so good! But for the less able ones, five verbal memories of words to be found in the text are all that is expected or encouraged. Such "dry bones" cannot affect beneficently social behavior or attitudes; they cannot even be retained except by constant reviews and tests.

It is not a matter of minimum and maximum assignment that is important. A different sort of assignment is needed for children of lesser abilities than for more able ones. If, in the illustration given above, the less able pupils had been asked to fill in an outline map showing France in relation to the Euro-

[1] Simpson, Mabel: "Supervised Study in American History." The Macmillan Co. Reprinted in Douglass: "Modern Methods in High School Teaching."

pean countries and to the United States and to show which were despotisms, which constitutional monarchies, and which republics, they might have been helped to do some constructive thinking regarding what France expected and what the classes in power were likely to accord her. After the children had drawn the maps they could show by color or lettering what outcomes of the situation seemed probable to them. Then by comparison with the book they could get the author's statement of what actually did happen. The teacher might have to help them find the very sentences which give the necessary information, but it is only by such processes that less able pupils can be led to do any original thinking.

It is sometimes objected by those who do not understand these matters that these methods to adapt instruction to the less able students are "mere coddling" and "soft pedagogy." It is claimed by them that facts are necessary to thinking and that slow pupils must master "the facts of history" before they can reflect on them. Unfortunately, it is so difficult to get slow pupils to "master" these "facts" that there is never any time left in which to teach reflective thinking about them. However, facts must be embedded in thought-processes; otherwise, they are mere words. If facts are utilized in estimating, judging, and "guessing," as they are learned, they will ultimately be controlled better by all members of the class than they will be if learned as words out of a book first.

In a word, to learn the lesson that Miss Simpson sets out, is to master a set of inaccurate and potentially vicious "facts." Better that we should agree with Henry Ford that "history is bunk" than that we should stultify our pupils by having them memorize such over-simplified explanations of international relations.

Let us utilize the social studies to promote individuality,

self-reliance, and initiative. Let us rejoice that these qualities are potentially present in pupils of all levels of intelligence.

The pupil, even the "intellectually" dull one, is a seeking-creature, an adjusting-creature, as Miss Caroline Pratt, in the preface to *Before Books* [1] points out. Every one of them is potentially a near-genius in some field or aspect of life. The possible range of activities in the social studies is so great that every one can make a creative contribution if we give him encouragement and assistance in creating what he can contribute, instead of demanding that he do what has been conventionally and futilely demanded in history, geography, and civil government—memorize "facts" as stated in text-books for purposes of examination.

Tests and Measurements. Unfortunately, the fact-tests which have been most widely used tend to re-enforce the fact-teaching which is all too common. It was natural that the first tests in history should have attempted to measure the kind of outcomes which history teaching usually stressed. But with such tests once established and "standardized" and glorified, only the bravest and the most defiant teacher dares to neglect the futile facts regarding Washington's boyhood or Wilson's college education or the date of the Boxer Rebellion. The "new type" tests are scarcely better than the standardized forms. They are so easy to make up and so easy to grade that there is a constant temptation for teachers to give them. Says G. M. Wilson:

Abandon formal fact tests of all kinds, older types of examination, newer types of examination, or standardized tests. Do not grieve over this advice on standardized tests. Hemmon has shown [2] that intercorrelations among standardized history tests

[1] Stanton, Jessie, and Pratt, Caroline: "Before Books." Published by Greenberg Co., 1926.

[2] Hemmon, V. A. C.: "Some Limitations of Educational Tests," *Journal of Educational Research*, no. 7, pp. 186-190, March, 1923.

are discouragingly low, and that their use in predicting success in history is of less value than grades in other subjects. When giving an examination in history try to realize the true purposes of an examination, namely, to give a new view and to provide for the application of principles to the solution of a new problem.

In the meantime use history tests for research and experimental purposes, or under some circumstances for the rough classification of pupils into groups.

The above program if carried out, will re-enforce, rather than hinder, a program of work in line with the larger purposes of history. On this basis the grading of pupils will not be as accurate as in the tool subjects; it cannot be. There will be no diagnosis of results in mastering minor details of subject matter; there should not be. The distribution of children into groups according to ability at the beginning of the year will be aided by tests of general intelligence and previous records in history. The interests of children will also help in preliminary classification. If history is a first choice subject with a pupil, he will find the time to do well in the subject. Thus the minor purposes of a testing program will be accomplished without defeating the main purposes of the subject.[1]

With few exceptions little has been done to measure the citizenship outcomes for which the social studies are taught. Van Wagenen has developed an elaborate set of tests to measure social judgment and other qualities on the basis of history material.[2] Hill has proposed a test for civic attitudes intended to discover "whether the pupil knows what his actions ought to be in the circumstances set forth in the exercise."[3] This test involves the variables of reading, reasoning,

[1] Wilson, G. M.: "Measurements of History and Civics," *American Education*, vol. 31, no. 3, Nov., 1927. Cf. Hill, H. C.: Department of Superintendence Fifth Yearbook. "The Junior High School Curriculum," p. 285.

[2] Van Wagenen, M. K.: "Van Wagenen American History Scales," Teachers College Bureau of Publications.

[3] Hill, H. C.: "Civic Attitudes Test," Public School Publishing Co.

judgment, and vocabulary ability. The results of the test correlate positively with native intelligence and with the citizenship marks given by teachers.[1]

Summary. The social studies are gradually living down their traditional description as "content subjects." Slowly we are coming to teach history, geography, and civics not in order that children should know facts, but in order that they may appreciate the inheritance which they have received from the past; that they may know that all progress has come through change in the social order; that they may face intelligently the problems which confront their parents, and which will probably confront them to-morrow. In the social studies, classes are coming to question the opinions of their contemporaries and the judgments of their forefathers; they are scrutinizing their social heritage of invention, of government, of economics, international relations, and the re-enforcements and conflicts of cultures; they are finding no traditions so sound, no solutions so final but that they may be examined. They are practicing with satisfaction such examinations. They are becoming reconciled to their own judgments.

[1] Cf. Fowler, O. F.: "The Civic Attitudes of High School Sophomores," *The School Review*, vol. 36, no. 1, Jan., 1928.

CHAPTER V

WHOLESOME LIVING

The health objective has received a great deal of serious consideration and attention for the past decade and more. Prior to that time formal lessons in physiology and a knowledge of anatomy were regularly taught, and in some schools regular exercises in gymnastics were carried on. Even in schools which were equipped with gymnasia the end in view was usually muscle building and the attainment of formal skills. Classes were drilled *en masse* to music or count. This has been termed the "factory stage" of physical education.

Health education in progressive schools has emphasized instead the attitude and habit aspect, the desire for better health, the habit of selecting foods wisely, of keeping regular hours, and of cleanliness. The gymnasium has pushed much of the apparatus off the floor. "It has indeed become 'outdoors' 'indoors' in which, when the weather necessitates giving up the outdoors, games can be played under cover and in which competition rather than drill is encouraged." [1]

The Scope and Purposes of Health Education Have Been Expanded. Physical well-being and alertness are fundamental to the exigencies of vocational and general social life. This is peculiarly true in a machine age such as ours. We depend more and more on powerful engines and motors which have no discretion regarding the value of human life. The ability to handle one's body effectively in the crowded streets of a city or in the many dangerous places in which man is placed in in-

[1] Cronkite, L. W.: "College Athletics as an Art," *School and Society*, vol. 23, no. 595, May 22, 1926, p. 639.

dustry make of physical alertness one of the fundamental factors of life.[1]

In regard to his health no man liveth to himself alone. A cold contracted and communicated, loss of time and perhaps of wages due to illness, a decrease of efficiency in work due to preventable ill health, all become community liabilities. Again, effective home sanitation, the care of one's children, and the eradication of pests are fundamental to civic welfare. While the public through its Board of Health and its various inspection divisions may protect life in a large measure, there is still a large area of hygienic precautions that is left to individual responsibility. Except as each individual takes responsibility for the health of himself and his immediate dependents, he may affect adversely the health of his neighbors and others with whom he and his dependents come in contact.

As our educational policies have been modified by a better understanding of sociology and psychology, the health objective has come to cover an increasing number of aspects. Most important, perhaps, is the recognition of mental health as of at least equal importance with physical health. The promotion of mental and emotional health is essential if the child's life is to be made a generally happy and satisfying one. To protect children from tasks for which they can never be adequate and to save them thus from a feeling of futility is of much importance in promoting their general physical efficiency. Competency to meet the problems of social life and to seek worthy leisure-time activities depends on self-confidence even more than it does on the wise selection of food or breathing pure air or going to bed at certain times. Indeed, it is generally believed that posture may often be more dependent on a happy frame of mind than upon any exercises that a gym-

[1] Cf. Payne, E. George, and Schroeder, Louis C.: "Health and Safety in the New Curriculum," The American Viewpoint Society, Inc., 1925.

nasium can devise. The relation between physical and emotional health is somewhat elaborated later in this chapter.

Environmental Control Should Be Substituted for Personal Health-Seeking. Health habits and attitudes, supported and re-enforced by accurate information, are obviously fundamental to satisfactory living. Many boys and girls are, of course, so fortunate in their biological inheritances and childhood training that they may violate with little apparent ill-effect many of the desirable health practices which are of immediate importance for other youths.

These biologically and socially happy youngsters are a bit embarrassing to the health education enthusiasts—for they may seem to disprove, or at least discount, the importance of regular hours of sleep, carefully selected diets, daily exercise, and the rest. There is a temptation to urge them to conform to a standard program with the implied prediction that awful things will happen to them if they do smoke, do eat between meals, do sit up late at night. But such insistence is objectionable if it makes these healthy youngsters too health-conscious. It is not a worrying attitude about health that normal children need; it is rather a joy in living, a pride of vigorous bodily equipment, and a common-sense attitude about caring for the human machinery which is theirs. For the most part, the less self-conscious they are about health the better. Let healthy children forget health and they are most likely to retain it.[1]

That does not imply, however, that the school shall not

[1] Jennings, Herbert S.: "Suggestions of Modern Science Concerning Education." The Macmillan Co., 1917. P. 42.

One of the most striking things in the development of modern physiology is its gradual recognition of the great value of those pleasurable emotional states which may be classified together under the abused word "joy," and of the harmfulness of the opposite emotional states—anxiety, sorrow, worry, fear, pain, and the like. The condition of happiness, of "joy," is that in which development is unhindered and flourishing; in which the functions are proceeding harmoniously; while worry, fear, unhappiness are the marks of the reverse condition of affairs; something is blocked and is going wrong.

promote healthful living and health attitudes and practices, as a part of its institutional life. Nor does it indicate that the school shall be indifferent to the conditions of living of their pupils during their out-of-school hours.

Through its medical inspection and resident nurse, the modern large school protects itself against contagious diseases and cares for those who need immediate attention. In smaller schools, one of the teachers—frequently the physical education or hygiene teacher—performs the tasks subsequent to the State-required medical examination shortly after the opening of school in September. The nurse or teacher may be assisted by pupil-members of First Aid Clubs or Service Clubs who spend certain of their study periods in the rest-room to disinfect and bandage cuts, remove foreign bodies from the eye, make pupils comfortable who are ill and who desire to lie down, and perform similar services. It is better for the healthy individual to worry about some one else's health than about his own.

Because physical and mental health, but chiefly the latter, are so closely related to the activities of the whole day, every school activity is willy-nilly a part of the school's health work. Pupils frequently study about food values, posture, sight conservation, circulation, digestion, and the like, in science or home economics classes, but the school applications of these learnings in the lunch-room, at recesses, in assemblies, and in other classes too often bear little relation to the facts and principles that are learned in the science classes.

Co-ordinated Efforts of All Teachers and Administrative Officers Are Needed. Pupils attain freedom of bodily movement, sportsmanlike attitudes and behaviors, happiness in competition, self-confidence, and integration of personalities in the activities of physical education classes of progressive junior high schools. But these same pupils may be made to sit

for forty-five or sixty minutes in uncomfortable seats; they may be compelled on pain of failure or punishment to refuse help to a fellow pupil in algebra. In their classroom activities, they may earn promotion marks only by unsportsmanlike conduct in class competitions in which the least able generally "start from scratch" and the most able receive favorable handicaps due to their biological superiority and their more adequate previous learnings; or they may get a distaste for school, an inferiority complex, a habit of rationalization and satisfaction in failure. Thus, the gains from physical education may be largely offset through inertia and lack of co-ordination.

Community sanitation is frequently stressed in community civics classes; indeed, the pupils may visit garbage and sewage disposal plants, community water supplies, the local board of health centres. Nevertheless, this instruction does not inevitably result in pupil-responsibilities for clean lunch-room and school-room, for sneezing into one's handkerchief, for washing the hands after elimination, for reporting a sore-throat to the school nurse. In fact, the school's administration is sometimes so regimented that these matters are obviously none of the pupils' business. They file into the lunch-room, select their food, take it to a vacant seat at a table, eat it, and depart. Lunch-room employees collect the plates, clean up the rubbish, and prepare for the next group. The pupils go from recitation-room to auditorium, to study-hall, and back to recitation-room; they know that the janitors clean the floors, the blackboards, and the desks. It is obviously not their business to pick up scraps of paper, to avoid entering the building with muddy shoes, to see that toilets are flushed, and that wash bowls are left clean.

The doctor or nurse tests eyesight and hearing, and inspects noses, throats, hearts, and lungs, and fills out cards that are filed away. Parents are notified, and the teachers *may*, if they

wish, hunt up the information. Nevertheless, pupils who are near-sighted or hard-of-hearing may frequently be found seated at the back of the room and, perhaps, classed as dullards or as lazy children. Pupils with defective hearts may be found playing basketball or undertaking long hikes or "hare-and-hound" runs, or hurrying from the shop in the basement to the assembly-room on the third floor to avoid being "late."

There is the greatest need for co-ordination of efforts to promote physical and mental health. It is unfortunate that the school's program of studies and administration has ordinarily tended to diversify. As a result of this diversification, at least five agencies are frequently responsible for one or more phases of the children's health—physical education teachers, home-room teachers, general science teachers, community civics teachers, and the school administration, particularly medical inspection, janitorial services, and room management. It is probable that every subject may well be used to some degree to promote the health program. Sometimes, as in Latin or algebra, it may be merely a matter of the control of admission of light to the room, the seating of pupils, the temperature of the room, and the like, whereas in the language arts there may be many opportunities through the writing of editorials and the preparation of assemblies to direct attention to school health conditions. In the appreciation subjects, especially art and literature, pupils may have their interest in sanitation directed by the making of posters and by readings of such articles in the standard magazines as are frequently stimulating to intelligent adults.

Responsibility for Health Education and Physical Recreation Should Be Centralized. There will be saved, however, a great amount of needless duplication and interference if the full responsibility for all health work be centralized under the direction of one department head, probably that of the physi-

cal education department. Whatever staff-member is so designated by the faculty or principal will become, for the purposes of the direction of the school's health activities, an administrative officer, authorized to inspect and suggest improvements in every aspect of the school's business which affects directly the wholesomeness of pupils' lives.

He will be made responsible for getting such co-operations as are desirable to assure a unification of the health program. He will interest all teachers in the importance of cheerfulness to physical health, to co-operative behavior, and to school success. He will offer his oversight to busy teachers to see that desks are adjusted to individual children and that pupils with physical defects are seated advantageously. He will sponsor various health drives and clean-up campaigns with the co-operation of the administrative officers and the teachers of science and civics, and of language arts, and of practical arts. He will co-operate with the school doctor and with the nurse, if there is one, to see that parents are kept informed of the physical conditions of their children, and that they are repeatedly urged to provide glasses or dental care or proper diet in cases of need.

In his own department, he will institute corrective exercises for pupils who have correctable defects, such as flatfeet and muscular deficiencies or inco-ordinations. He will provide such activities for those with organic defects, as will give them exercise and good fun without endangering their health. For the rest, he will institute a program of athletic play and recreation.

Curriculum Practices Should Be Based on Health Needs in Normal Living. For the physically normal children at the dawn of adolescence, what should be the program of physical activities? The answer must first be sought by finding out (1) what are the needs of human beings for which physical education should aim to provide; (2) what play-activities and work-

activities should be better performed because the child has had the advantages of a course in physical education; (3) to what automatic or semi-automatic physical functions can physical training contribute; and (4) what are the physical and psychological characteristics of puberty and early adolescence that make necessary a specialized physical training at this period.

Here are a few of the fundamental questions that face the curriculum-maker when he begins to think out a "course of study" for physical education. Only when such questions have been at least partially answered is he ready to go to the next step, i. e., that of trying to find suitable activities and procedures.

Let us take first the most obvious activity to which physical training must contribute—gross bodily movements. In a general way these come to us instinctively or by trial and error; we creep, we walk, we run, we dodge, we turn and twist, we wave our arms, we grasp objects, we "duck" our heads, we jump, dash forward or lean backward when we stop suddenly, according to the situation to which we are responding. In free play these "instinctive" movements are practiced and refined sufficiently.

But there are some gross bodily adjustments, such as swimming and dancing, that must be laboriously learned, even though these activities have many instinctive roots. There are, indeed, many movements that come about naturally which need modification to meet the actual situations of life. Fighting and hunting instinctive movements are mutated or transformed into play activities, such as wrestling, boxing, football, tennis, hare-and-hound runs. They may function in dodging street cars, in moving through a crowd, in defending oneself from attack, in lifting, pushing, or hauling heavy loads. All of these activities are probable occurrences in the lives of most normal human beings, and it is a function of physical educa-

tion to prepare pupils to do them better than they otherwise would.

Physically normal children at the dawn of adolescence should, therefore, be encouraged to engage in physical activities which are, on the one hand, similar to and preparatory for normal living and suited to their age and development, and, on the other hand, which appeal to them as "good fun" and are typical of the activities of admired adolescents and adults.[1] This admits of a reasonable amount of formal gymnastics, setting-up drills, and preparatory or accessory exercises, but such activities should be reduced to a minimum.

Even such special group exercises may be motivated by relating them to activities typical of adolescent and adult normal living. To practice "paddling a canoe," "chopping down trees," and batting or pitching ball, by going through the motions is good fun and good exercise and may be definitely preparatory for actual participation in canoeing, ball playing, or wood chopping. Such "minetic" exercises have found a large place in many progressive schools.

Similarly, jumping a low bar, practicing the low hurdles, throwing basket-ball goals, with emphasis on form and technic, can be easily initiated and carried through with a minimum of artificiality. Fielding practice on the baseball diamond, "falling on the ball" or "tackling the dummy" at football, "practicing starts" on the track, and similar devices in skating, swimming, tennis, and broad-jumping can also be abstracted from games and "events" in which adolescents and adults engage.

[1] While most play activities are sufficiently common so that the school can give exercises preparatory for them, work activities are so specialized that it is necessary to look to the shop, the typewriting room, the art and the sewing classes and, indeed, the handwriting and reading classes for the particularized muscular co-ordinations of importance to vocational success. Reading is, of course, one of the most common play activities, as well as a work activity.

W. O. Forman has studied the activities of junior high school children of Des Moines, Iowa, and at Uniontown, Pennsylvania. He lists the following:

HOW 175 BOYS FROM TWELVE TO FIFTEEN YEARS OF AGE SPEND THEIR LEISURE TIME AND HOW THEY WOULD LIKE TO SPEND IT [1]

	Saturday						Sunday					
	Morning		Afternoon		Evening		Morning		Afternoon		Evening	
	A	B	A	B	A	B	A	B	A	B	A	B
Ball game	0	0	0	2	0	0	0	0	20	17	0	0
Build something	0	0	0	0	0	0	0	0	2	0	0	0
Caddy	6	11	21	10	0	0	15	11	13	8	0	0
Chores	76	39	16	5	11	2	5	0	0	1	0	1
Christian Endeavor	0	0	0	2	0	0	0	0	2	0	0	0
Church	0	0	0	0	0	1	46	33	6	5	28	20
Fishing	1	2	6	10	0	3	0	1	2	6	0	0
Go somewhere	1	2	0	1	0	2	3	0	0	0	0	0
Hike	0	5	0	8	0	3	0	6	3	8	0	1
Loaf around the store	0	0	0	0	3	3	0	0	0	0	0	0
Nothing	2	1	17	2	14	3	18	5	18	2	45	9
Park	0	0	0	0	0	1	0	0	2	1	0	0
Picnic	1	0	0	1	0	0	0	1	0	1	0	0
Play	27	66	48	41	36	40	9	23	34	36	22	35
Plow corn	0	0	0	1	0	0	0	0	0	0	0	0
Radio	0	0	0	0	12	5	1	1	1	1	10	8
Read	1	0	0	0	37	21	5	6	10	1	24	20
Rest	0	0	0	0	0	2	0	0	0	1	0	0
Ride	1	6	1	6	10	10	1	1	3	9	13	18
Run around	0	0	0	0	0	0	0	0	0	0	0	2
School	0	1	0	0	0	0	0	0	0	0	0	0
Show	0	1	13	22	26	31	0	1	21	22	22	39
Sleep	1	5	0	1	0	1	2	7	0	0	0	0
Study music	0	0	1	1	0	1	0	0	1	1	1	1
Study Sunday-school lesson	0	0	0	0	0	0	0	0	1	1	0	0
Sunday school	0	0	0	0	0	0	58	42	0	4	0	0
Swim	0	0	1	12	0	0	0	0	1	5	1	1
Town	1	4	16	12	6	6	0	0	1	1	1	2
Visit	1	1	2	0	5	5	0	0	11	6	5	3
Work	30	19	33	25	15	15	12	5	3	2	3	0
Undecided	0	12	0	3	0	20	0	32	0	36	0	15
Total	175	175	175	175	175	175	175	175	175	175	175	175

The columns headed "A" indicate the number of boys actually engaged in each activity; the columns headed "B," the number who would like to engage in each activity if they were permitted to choose.

[1] Forman, W. O.: "The Use Made of Leisure Time by Junior High School Pupils." *The Elementary School Journal*, vol. 26, no. 10, June, 1926.

Cf. also Lehman, Harvey C. and Witty, Paul A.: "A Technique for Obtaining Group Projects." *The Journal of Educational Method*, vol. 6, no. 2, Oct., 1926. Includes a summary of a number of other similar investigations.

The Role of Athletics in Junior High School Needs Careful Consideration. Interscholastic athletics doubtless have a very real place in the lives of junior high schools. It is easy to condemn such contests; it is true that there is always danger that they will tend to discredit the intra-mural contests. A resourceful physical director will, however, have little difficulty in keeping each type of athletics in its place. Interscholastic teams should be recruited from class teams. Insignia may be awarded only to pupils who have good records in both intra-mural and inter-school phases of athletics.

Interscholastic contests may indeed be conducted so that the mass of pupils in each school may compete. Two examples of such conduct follow. At Waltham, Massachusetts, each of the two junior high schools had varsity football teams and the two schools had become fierce rivals. E. W. Blue and a colleague were put in charge of the athletics in the two schools with the recommendation that they set up an athletic program which would decrease this rivalry. Instead of a varsity team in each school seven teams were formed by the simple expedient of electing seven "captains" each of whom selected his teammates in rotation so that each team had about the same number of good players. A series of games between all the teams of the two schools was arranged. In the first few games the instructors acted as officials with strict impartiality. After that they gave hints to each team so as to make the players feel that they were interested in them; thus, they instilled a spirit of good feeling and an eagerness to improve.

Since these games were a part of the regular physical education, a part of the prescribed curriculum, no teacher could keep one of the boys from playing because he had dropped below in his studies. The conventional system for deciding eligibility would have interfered with the program of general participa-

tion in athletics, for many of the poor students would never have been eligible, and would therefore never have become interested in athletics. Such pupils include most of the "trouble makers" who need help more than any of the others.

A unique method, justified by its success, was adopted for awarding school letters. Instead of giving letters to all the members of the team which won the highest percentage of games, insignia were given to the two or three best players of each team. These boys received the school letter provided their scholastic work was of passing grade and their co-operation in school was satisfactory. Much was made of the presentation of letters at the school assembly and the letter-wearers were made to feel that they should typify the best standards of conduct and attitudes in the school.[1]

In the *New Jersey Education Bulletin* is given the following description of the Athletic Efficiency Tests given in that state:

The Fifth Annual Athletic Efficiency Test for High School Boys and Girls was held in the spring of 1927. This is a State-wide test, open to all high schools. The outstanding value in this test is that it is a test which includes every boy and every girl in the school in so far as he or she is physically able to take part. In this manner the small high school can measure itself with the large high school. The records of the tests (boys—100-yard dash, running broad jump and fence vault and running high jump; girls—60-yard dash, running high jump and basket ball throw for distance) are sent to the State Department. Here the best 80 per cent in every school are averaged and place rating is given according to the average.[2]

This program of exercise directs the attention of pupils to desirable games and encourages the boys and girls to be vigorous, effective, and competent participants in the games.

[1] Cf. Blue, E. W.: "Experiments in Athletics." *Journal of Education*, February, 1926.

[2] "Athletic Efficiency Tests." *New Jersey Education Bulletin*, September, 1927.

This desire motivates many intellectual and habit-forming activities that effectively contribute to good health. One will care for his diet, retire regularly, sleep with windows open, bathe regularly, disinfect wounds, avoid constipation, treat colds rigorously, provided he believes that his chance of engaging adequately in the popularly approved activities of adolescents will be improved by these means.

Personal Appearance Is a Potent Motive for Physical Improvement. Closely related to this idealization of the athlete, is the appreciation of adolescent and adult beauty. To care for the teeth and skin and eyes and nails and to strive for "good posture" needs no further motive than the identity of self with the discriminating adolescent young man or young woman who is admired because of his or her appearance.

Embarrassment and unhealthy self-consciousness may, of course, result from efforts of teachers to develop such identification of self with the athlete or with the handsome adolescent. There must be recognized, too, that there is possible danger of hero-worship in which the hero is the star-athlete or the "swell-dresser." If the school plans to use this most potent motive of *emulation*, great care must be given in promoting the admiration of the kind of older boy and girl that the school desires to have emulated.

There is no more significant and profitable an expenditure of thought and ingenuity than that given to such stage-setting. To give prominence in assemblies, in student committees, in appointing "squad leaders," and on all formal occcasions to those rugged, simply dressed boys and girls who are already highly esteemed by their fellows, results inevitably in fixing in the standards of the school an ideal of culture, refinement, posture, physique, and glowing health. In such stage-settings, silent suggestions abetted perhaps by casual re-

marks, are efficacious. "Rubbing in" the qualities of the "models" by teacher-led discussions will almost certainly arouse jealousy and "counter-suggestiveness." If the selected pupils are worthy of emulation, it will take place automatically. Obviously, an already unpopular pupil should *never* be used for this purpose.

Personal Hygiene Should Be Motivated by Identification of Self with an Ideal. If the desire to become rugged and pleasing of appearance has been skilfully aroused, personal hygiene amounts to little more than guidance in attaining the desired ends. Self-respect and self-confidence are closely bound up with appearance. An attractive hat or dress, hair skilfully waved and arranged, nails manicured, and a clear complexion may make the ninth-grade girl a smiling, co-operative, self-respecting ally of the school's every effort. Her posture may improve and her scholarship may become better and her home relationships and community activities may become positively contributory. The boy of the same age is generally less acutely affected by his personal appearance; he is more frequently reached through the social respect he gains as a presiding officer, a corridor-guard, an athlete, a debater, a member of the orchestra or of the Sea Scouts. Improved personal appearance follows closely on the attainment of prominence and success, however. Once a pupil's self-respect is stimulated, an interest in all that will promote his health and, hence, his further successes may become intense.

In every case, the bases of motivation are the same, a desire to be rugged and pleasing of appearance and a belief that one is to a degree successful and can succeed more fully by effort and further knowledge. Other motives are relatively remote, but they should be used for whatever they may be worth. The vocational value of health, the ideal of parenthood and social

service, the joy of robust health in later life, and the relative immunity to disease of healthy persons stimulate some pupils to engage in a program involving self-denial and vigorous physical preparation.

Physical Examinations Should Result in Co-operative Efforts of Parents, Teachers, and Children. Physical examinations are of value, particularly if the parents and home-room teacher can be persuaded to be present at the examination. The doctor or nurse can then make sure that adviser and parent have a clear understanding of the needs of the individual child. After all, hygiene must be practiced by the child with the encouragement and co-operation of the parents—or at least with their toleration—and these often are not obtained without sympathetic understanding on the part of the parent. Too frequently, the parent conceives the school's efforts to be infringements on the business of the home or implied criticism of the home's regimen; as such, they are often disregarded or resented.[1]

The physical examination should be energetically followed up by the pupils themselves with the immediate stimulation and encouragement of the home-room teacher, and the co-operation of the science, art, language, and other teachers. Habits of cleanliness, correct breathing, good posture, care of the nose, throat, eyes, and teeth, and regularity of elimination, of exercise in the open air, and of sleeping hours, may best be emphasized in the home-room periods. Here the friendly relations of the pupils and advisers and the social forces for conformity in the face-to-face groups frequently render such instructions more potent than in classes where fact-getting and skill-getting are so customary.

[1] Cf. Rogers, J. F.: "School Hygiene and Physical Education." Bulletin No. 3, 1927, Department of the Interior, Bureau of Education, p. 2.

At the Fairmount Junior High School, Cleveland, Ohio, pupils, teachers, and parents have been encouraged to co-operate very effectively, as the following excerpt explains:

In September a health committee was appointed by the principal with the teacher of hygiene as chairman. The purpose was the improvement of the general health of the pupils through the co-operation of the home-room teacher, the parents, the child, and all the departments of the school.

In this program the child studied the rules of health, practiced them, and checked results on health cards. This stimulated his interest in his own health, led him to form good individual health habits, and created a rational basis of health that will, it is hoped, carry over to maturity. Every pupil was weighed each month, and at this time he was given an opportunity to report in the hygiene class on health habits he stressed in order to gain weight. Reasons were also given for failure to gain. In the study of physiology the pupil acquired a scientific reason for his health rules; also he sensed the importance of correcting defects so that he would be free.

Bulletins were sent to each home emphasizing the importance of the health rules and the proper amount of nourishing food required for growing children. Needs of the pupils were ascertained through questionnaires indicating diet, sleep, and other influential factors.

Bulletins from the school press were issued to pupils on well-balanced breakfasts, a Christmas menu, sleep, and the prevention of colds. Demonstrations of some phase of every bulletin were given in the lower hall. Posters and cartoons on health were made by art pupils and articles on health written by pupils were printed in the school paper. All bulletins were read and discussed during home-room periods. A booklet of balanced daily menus was prepared for distribution without cost to every child in the building, the art and English departments co-operating to add to its attractiveness. To encourage the sale of fruit in the school lunch-room such devices were used as placing a valentine in the heart of every apple sold on Valentine Day.

Lunch trays were also inspected and cards were given out two different days to those lacking milk, green vegetables, or fruit in some form. The third day souvenirs were given for well-balanced lunches. Results were very satisfactory.[1]

In the John Adams High School in the same city, home-room honor-roll cards for perfect teeth were instituted; and all cases of serious malnutrition were dismissed from their eighth-hour classes on Wednesdays to consult the hygiene teacher regarding food, sleep, and weight.

Home-room Teachers Are Most Important Health Conservers. While the physical education director may properly head up the health efforts of the school, the home-room teachers are bound to be the most significant school agents in making the program of *personal hygiene* effective.

The physician was once considered the only person capable of knowing the physical nature of the child, but the school nurse was later discovered to have eyes and ears and to be capable of using them and, of late, in the past biennium, there has been emphasis on the fact that the teacher not only possesses such powers of observation but that she sees the child more frequently and is better acquainted with his working capacity than either physician or nurse. Moreover, it is her business to know whether and when the instruments with which she works are "sharp" or "dull." The past biennium has seen the teacher placed first in importance among health examiners, and her preparation for this work has gone on apace in many training schools. The physician (either family or school doctor) is no less essential than ever in the scheme of health work, but his labor is supplemented, his time is saved, and the data for his conclusions are greatly improved.[2]

[1] "Annual Report of the Superintendent of the Cleveland Public Schools, 1925–26. Published by Division of Publication, Board of Education, Cleveland, Ohio, October, 1926. Pp. 104-107.

[2] Rogers, J. F.: "School Hygiene and Physical Education." Bulletin, 1927, no. 3, Department of the Interior, Bureau of Education. Pp. 1-2.

But this follow-up must not be too insistent in the case of children in good health. It has been stated earlier in this chapter, and must be emphasized again at this point, that *the less conscious of their bodily needs healthy children are, the better. Pupils who have established habits of regular bowel movements, of bodily cleanliness, of regular bed-times and sufficient ventilation, and of adequate diets will do well to forget about themselves unless their habits are interfered with.*

Only the Happy School Is Likely to Be a Healthful School. Physical health is closely related to mental and emotional health. Perhaps if the child is good he will be happy; but more surely if he is happy he is likely to be in good physical and mental health and, hence, will most probably be good. Only that child is happy who respects his ability to succeed in what he is undertaking. If his successful project be stealing apples or breaking windows or throwing spit-balls, then he will normally express himself in anti-social ways. If it is fishing or playing baseball or hiking or singing or reading, then he may be expected to express himself in harmless or desirable ways.

The first duty of the junior high school is so to organize itself that pupils may find varied activities at which they can be in some regard uniquely successful. Compared with this, all gymnasium activities, all inspections, all instructions, and all campaigns are empty and cheap.

Homogeneous grouping doubtless promotes general happiness among the less able pupils *if* they are permitted to win outstanding success. Intra-mural and even interscholastic athletics may encourage this happiness *if* they are so administered that every physically normal pupil has an opportunity —and knows that he has that opportunity—to contribute to the success of his team. Curriculum diversification may promote this condition *if* the core-curriculum is so planned that

every normal industrious pupil may pass, and *if* it is most worth while at the time taken, and to the extent it is pursued, and *if* no pedantic and ignorant advisers have sent pupils into electives in which they cannot succeed. Assemblies, clubs, and the other social organizations and problems of a creative school control will surely promote the desirable condition *if* intelligently directed by humane adults rather than by "schoolish" teachers and self-advertisers who exploit a few geniuses for their own self-aggrandizement.

Patience, charity, vitality, optimism, and a positive program of activities on the teacher's part will assure an environment in which all but the most stubborn cases of emotional disturbances among junior high school children will dissolve. And in no phase of school work is there so great an opportunity for encouraging such a program of activities and for teachers to rid themselves of "complexes" as in the physical play periods. For in their games, most pupils lose themselves; their quirks and twists of character cannot withstand the joyous spirit of participation, and emotional states are sublimated in the desire to get the ball or tag some one or run to base.

Vigorous, Pleasurable, Big-muscle Activities Are Most Important. The big-muscle activities make the adolescent forget himself in an atmosphere of wild and joyous excitation. Such games are desirable, too, because of the evolutionary significance of the big-muscle activities and because of the neglect of these activities in our modern civilization.

The activities selected to be taught within school hours must tend to carry over by their own dynamic drive into the out-of-school play periods. During childhood and growth the only activities which will be carried on with intensity for any length of time are the play activities. These activities tend to be continued because of the pleasure they give. Formalized and arti-

ficial activities are fatiguing and particularly uninteresting after the novelty has worn off, and they cease to go on as soon as adult compulsion is discontinued. Drills never impel children to spontaneous action. Children do not rush together spontaneously at recess or after school and start a gymnastic drill. But this is precisely what must happen from activities in school hours if physical education is to help produce citizens. This fact alone puts emphasis on the selection of activities on the natural activities.[1]

False Modesty Regarding Their Own Bodies Should Be Discouraged in Children. Out of this whole-souled participation in the life of the school, there should arise in the children an interest in their own bodies. So long have we lived in the realm of false modesties that it is not easy for adults or children to talk about such obvious body functions and organs as elimination of the bladder and bowels, menstruation, seminal emissions, without an emotional uneasiness and absurd self-consciousness. How far teachers of physical education can themselves help the generation of little folks to talk about their personal problems is problematical. The natural segregation by sexes in physical education classes should aid in this. To the extent that pupils could be taught to use without embarrassment the scientific names for their metabolistic and sex organs it would very much aid in helping them vocalize their bodily experiences, and so raise them from the repressed and hidden and conditioned reactions that cause many of the mental, emotional, and physical shortcomings in adolescents.[2]

The Positive Program May Be Summarized. If we assume that some instructor or some committee has direction of the

[1] Hetherington, C. W.: "The School Program in Physical Education," World Book Co., 1922, p. 57.

[2] Cf. Watson, John B.: "The Myth of the Unconscious," *Harper's Magazine*, Sept., 1927, pp. 502–508.
Davenport, Isabel: "Salvaging of American Girlhood," E. P. Dutton & Co., 1924.

school's program for promoting habits, interests, attitudes, and knowledges, contributing to physical and mental health, we may summarize a feasible program for the director or committee to follow:

(1) *Medical inspection.* State laws in many states now make an annual examination of pupils compulsory. The appraisal of each child's bodily state is, of course, the logical initial step. Unfortunately, an examination, as such, accomplishes nothing. The director of the committee must devise means by which the findings may be put to work. If parent and home-room teacher may be present at the examination—and the school nurse, too, if there is one—the record, or excerpts of it, which are later to come to parent and home-room teacher, will be much more intelligible and will be generally accepted with an attitude of co-operation and confidence. The fact that contact with nurse and home-room teacher and parent has been made at the time of the examination in itself makes co-operation probable.

As has been implied, the health record card is filled out at the time of the examination and an abbreviated form indicating needed precautions and treatment is sent to parent, to home-room teacher, and to the physical education teacher. For all children with marked specific defects a follow-up is needed, either by the home-room teacher or by the nurse.

The medical examination should, of course, include cursory inspection of teeth, throat, hearing, eyesight, heart, lungs, goitre, hernia, and vaccination.

The defects found at Colinwood High School in Junior High School grades in 1926 are given in the following table:[1]

[1] "Annual Report of the Superintendent of the Cleveland Public Schools." Health-Character Fundamentals, published by the Board of Education, Cleveland, Ohio, 1926, p. 75.

	GIRLS						BOYS					
	7B	7A	8B	8A	9B	9A	7B	7A	8B	8A	9B	9A
Examined	216	237	153	139	109	122	177	223	159	193	112	135
Defective	191	218	140	117	98	107	128	155	117	130	85	108
1. Underweight, 10 per cent or more	49	60	41	41	20	28	12	22	22	14	19	24
2. Overweight, 20 per cent or more	21	14	12	18	12	10	7	4	8	9	5	10
3. Teeth	82	81	49	38	43	25	68	76	55	64	49	59
4. Glands—goitre	78	90	53	77	59	80	37	31	46	38	24	33
Others	1	12	1	7	3	1	2	8	11	3	5	6
5. Vision	40	50	34	40	24	28	12	32	21	17	16	15
6. Adenoids	25	17	12	15	8	3	18	14	11	8	4	4
7. Tonsils	45	33	20	25	25	19	34	20	16	16	7	9
8. Hearing—including wax, discharge, deafness	45	41	23	19	15	14	12	20	16	10	8	19
9. Speech defect	2	3	1	1	1	...	...	1	2	...	...	...
10. Nervous system	1	2	2	1	1	2	1	2	1	...	...	...
11. Heart	2	6	6	6	3	6	1	2	4	1	1	2
12. Lungs, including exposed to tuberculosis	2	1	5	2	1	1	2	...	2	...	1	...
13. Hernia	1	...	...	...	...	...	3	1	2	4	2	1
14. Nasal obstruction	1	1	1	...	1	2	...	...	...	...	...	...
15. Posture, flat feet, etc., referred for corrective gym	77	91	53	62	33	27	13	29	12	17	9	21
16. Skin	4	2	8	17	1	5	1	1	...	3	4	3
17. Headache	23	21	9	13	7	12	...	...	...	...	...	...
18. Others	9	2	4	...	1	1	16	14	9	11	10	6
Total	508	527	334	382	258	264	239	277	238	215	164	212

The defects found are classified in the Cleveland School Report of 1926 into four general groups.

I. *Defects requiring minor treatment by the school nurse.* The most common are boils, abscesses, and minor communicable diseases. These are ailments which ordinarily would be treated at home without a physician. It is found that the children will let a nurse in uniform do for them many things which they will not permit their parents to do at home.

II. *Defects referred to parents for treatment by physician.* The most common are: defects of teeth, tonsils, adenoids, glands, poor vision, malnutrition, defective hearing, nasal obstruction, anemia, goitre, defective heart, spinal curvature, and St. Vitus dance.

Indigent cases, requiring blood test, operation, tooth extraction, or other special service, are referred to the City Hospital or other free or part-pay clinics.

III. Major communicable diseases. These are not only referred to parents and, through the parents, to the family physician, but also are reported to the city health department. Against these, immediate steps are taken by the school physician and nurse. Such diseases include: small-pox, diphtheria, scarlet fever, measles, mumps, chicken-pox, tuberculosis, and trachoma.

IV. Defects requiring sending of pupils to special departments of the school system, such as: mouth hygiene clinics, sight-saving classes, trachoma classes, school for the deaf, psychological clinic, classes for the blind, special classes, opportunity classes, the school for crippled children, open-air classes, and corrective gymnastics.[1]

The school physician may also vaccinate against small-pox any children whose scars are not satisfactory, and may (with the parents' consent) administer the Schick test to reveal susceptibility to diphtheria, and Toxin-anti-toxin immunization for those children who are susceptible to the disease.

Probably the most outstanding problem in the physical

[1] Ibid, pp. 64-65.

health of the school child is the care of the teeth. The existence of decayed teeth is, however, indicative of more fundamental conditions which need to be dealt with. Ninety per cent of the caries which were believed to be unavoidable, and which we have been trying to prevent by tooth brushing, are easily controlled by early treatment. The cause of the imperfect development of teeth (and hence of decay) is faulty prenatal and later nutrition. It is not impossible that we are on the way to eliminate our most common disease and to lessen the need of the dentist, now so essential, if expensive, an agent in patching up the results of our ignorance.[1]

(2) *Health directors are responsible for the executive function.* Whether the school physician together with the dentist, oculist, and nurses actually treat pupils with various shortcomings or refer them to the home physicians and the clinics, the health director must take responsibility for seeing that as large a fraction as possible of pupils have all correctable defects corrected. Such steps may properly be classified as largely administrative, but in health work the administrative phases and the curriculum phases constantly overlap.

The duties of the health director or committee in the coordination of all agencies that can be of help in promoting the health of the pupils are the natural corollary of the inspection and follow-up program.

All teachers need advice and tactfully given instructions in identifying those pupils who need attention. The home-room and class-room teacher may not be so skilful in these matters as the physician or the nurse, but the teacher is present when the identification must be done, and since he knows the pupils, he is likely to notice unusual color, lethargy, or restlessness.

[1] Cf. Rogers, J. F.: "School Hygiene and Physical Education," Bulletin 1927, no. 3, Department of the Interior, Bureau of Education, pp. 3-4.

(3) *The third step in the program is the institution of a program of games, stunts, dances, exercises, competitions in which all normal boys and girls will enter joyously.* The physical education periods must become a co-ordinating and stimulating agency. The programs of these periods will take account of the every-day activities in which the children engage. It will lead the children to play better the games and to perform better the other activities in which they now engage eagerly, anyway. And the children will be encouraged to undertake to find satisfaction in many forms of recreation and remedial-developmental activities which give promise for present and future happiness and success in human adjustments.

Hiking clubs, golf tournaments, snow-shoe trips, horse-back riding, swimming contests are frequent approvable forms that this program takes. Pierce tells of three other somewhat unusual leisure-time clubs.

In Waterbury, Conn., there is in one of the high schools a rifle team among the girls. They have won the national championship. During the hunting season, these girls take their guns and their cameras and enter into the spirit of the season.

In one school, two boys made their own fishing poles even to the winding of them with silk—a very difficult thing to do—and then went out to try them. One boy received a prize for the kind and the size of the fish he caught.

All pupils will like recreational clubs if only they have the opportunity to come into contact with them. There is a Rattlesnake Society in a certain section, that last year, in the spring, went out after rattlesnakes and killed twelve. Even that is recreational.[1]

(4) *Corrective exercises and treatment.* Children who have extreme orthopedic defects or who are seriously mal-nourished

[1] Pierce, Franklin E.: "Athletics as a Leisure Occupation." Abstracts of the Addresses and Discussions of the Third Annual Junior High School Conference, School of Education, New York University, March, 1927.

must be treated by their family physicians or in a public clinic. Health directors may get the assistance of the district nurse or a visiting teacher or the truant officer who will make the desired arrangements with parents and clinics, in case the parents cannot or do not take such measures themselves, when they have been notified by the school. If one of the parents has been present at the physical examination, co-operation in serious cases is generally easy to obtain.

For less extreme cases, corrective exercises may be prescribed, and practice may be conducted under the direction of the instructor. Such pupils should not, however, be required to turn an undue amount of their play-time into exercising—lest the latter become distasteful.

In cases of mal-nutrition, parents and pupils will often consent to have luncheon trays inspected and approved by an agent of the Health Director. In districts where poverty or home conditions are very unsatisfactory, free breakfasts are sometimes provided by charitable organizations for children who cannot get wholesome food at home. This is only a temporary expedient, however. It should never be allowed to degenerate to pauperization of pupils or families.

(5) *Hygiene.* The desire to keep in good health is fundamental to all teaching of hygiene.[1] Such stimulus as may come from athletics, from dramatics,[2] pageants, and from literature should be exploited. The great motives will, however, grow out of the identification by each pupil of himself with a vigorous, impressive, attractive ideal of himself. Such ideals can be promoted by bringing healthy, vigorous young men and young women into prominent places in relation to the school's pro-

[1] Wood, Thomas D., and Rowell, Hugh G.: "Health Supervision and Medical Inspection of Schools." W. B. Saunders Co., Philadelphia, 1927.

[2] Payne, E. George, and Schroeder, Louis C.: "Health and Safety in the New Curriculum." The American Viewpoint Society, Inc., 1925.

gram. For this, chief reliance should be placed on the leading boys and girls of the school itself. Frequently, however, the introduction of sensible and healthy senior high school boys, and of somewhat older young men and young women for assemblies, for coaches, for associates will be most helpful.

Whether the study of the body and its care is allocated to the science classes or to the physical education program, the health director will find that many problems of physical and mental hygiene will call for treatment at other times than the regular curriculum provides for it. Such hygiene instruction is largely personal and incidental to peculiar needs and opportunities.

The football team during "training" is in a state of readiness to profit from instruction in hygienic living; pupils getting ready for examinations, for public debates or dramatics, or for other occasions where abundant health is essential, are eager to learn what precautions and what positive steps can be taken to assure fitness.

The care of the skin, teeth, nails, hair, will appeal most if the advice is given individually, or if pupils set up a program for self-improvement for themselves. Routinization of bathing, of elimination, of brushing the teeth, and other hygienic measures, are promoted best by the use of the check-list which the child fills out each night or morning. The use of the check-list has fallen somewhat into disrepute because, when teachers put too much faith in it and reward too generously a good record, pupils lie about these practices. The solution is, however, the more discriminating use of the check-list, not its discontinuance.

Much of the hygiene instruction should grow directly out of the physical and mental-emotional defects discovered through the medical examination and personal observation of

pupils by teachers. Headaches, eye-strain, listlessness, excitability, sallow skin, bad posture, improper clothing, and other defects call for personal, friendly interviews. Such advice will be well received, if tactfully given.[1]

The emphasis in class instruction in hygiene should be largely on the care of others. Food for the family, care of the baby and pet animals, precautions to avoid transmitting colds, making war on flies, mosquitoes, mice, and rats, disinfecting clothing and dishes that have been used by sick people, and similar projects direct pupils' attention to hygienic procedures without making them too finicky about their own health. Nevertheless, pupils who are considerably underweight or overweight may find in a class record an incentive to take vigorous but temperate measures to bring their own weights nearer to normal. Similarly, class charts are valuable which show each day how many have eaten green food, drunk milk, washed teeth, slept with windows open, avoided reading with the light in their eyes, and other desirable practices—if too much stress is not put on lapses from the standards advised.

(6) *Drives and co-operative efforts.* The teacher to whom is assigned the major responsibility for the health and physical recreation of the pupils must recognize, of course, that single-handed and by super-imposition or prescription of activities he can accomplish relatively little. As co-ordinator of the school's efforts and as stimulator and director of the co-operations of teachers, parents, pupils, and the various community groups which are interested in the safety and health of the children, he can more adequately affect the total environment and health and recreation behaviors of all of the pupils. In general, he will secure the co-operation of the social study teachers, the English teachers, the science teachers, the lunch-

[1] Cf. Gibson, Jessie: "On Being a Girl." The Macmillian Company, 1927.

room manager, superintendent of buildings and janitors, and the physical education teachers in a well-thought-out program of drives or campaigns. These officers, together with the pupils, will then stimulate the co-operative efforts of parents, employers, police, firemen, and other municipal officers, Chambers of Commerce, Rotary Clubs, Playground Associations, women's clubs, churches, and other civic groups, in supplementing and co-ordinating the total community programs for the safety, health, play, and general welfare of the pupils and adults of the community.

Drives and campaigns have great value in stimulating and co-ordinating and giving fullest expression to community desires for improvement. The limitations of the drive are inherent in its nature. It is a wave, a vigorous advance. It must not be continued so long as to wear itself out. Indeed, definite provision in the form of more permanent and abiding satisfactions must be made to replace the temporary enthusiasm of the glorious advance. Otherwise, as the wave recedes, much, perhaps most, of the gain will be lost.

The drive should result in health consciousness and recreation consciousness on the part of a large part of the community. Such consciousness may be continued by the school by giving a regular place to the health and play records on the pupils' report cards, by recognizing health and recreation in awarding insignia and other school honors, and by building into the science courses of study, the home-room and assembly programs, the lunch-room procedures, rational emphases on health and recreatory practices. Pupil responsibility for conditions of classrooms, lunch-rooms, and their own homes and neighborhoods must be promoted as parts of the regular activities of the school. They should be encouraged to make back yard playgrounds and to clear up vacant lots and convert

them into baseball fields. By such means may the advances attained by drives be made permanent.

In all these ways the modern school endeavors to promote health practices. The due recognition in school procedures of Rousseau's contention that normal development cannot be had without regard to the vigor of the body "would almost automatically revolutionize many of our educational practices," says Dewey. The health program at its best represents the forward thrust of this potential revolution.

CHAPTER VI

LANGUAGE ARTS

If we conceive the junior high school to be a form of community life, a simplified social life that is worth living for its own sake, then language becomes the normal instrument by which the business of this school world is carried on. Typical of such normal activities are the preparation of assemblies, the publication of newspapers, the improvement of the lunchroom and the playgrounds, the expositions of proposed plans for relieving traffic congestion, the explanation and justification of new departures in room organization and class procedures, the entertainment of parents and other guests, and correspondence with chambers of commerce, with business firms, and with former pupils who have moved away. These and many more activities typical of the socialized school call for effective use of the language tools—speaking, writing, spelling, oral and silent reading, outlining, and the like. In the needs for clear thinking and for the convincing expression of beliefs and feelings which the pupils sincerely possess—or better, which possess the pupils—are found the motives and standards which control the pupils' efforts to improve in the language arts.[1]

The drift in education has led us far away from this simple conception of language work. So surely as handwriting, spell-

[1] Cf. "Reorganization of English in Secondary Schools," Bulletin No. 2, 1917, p. 33.

"The subject-matter of English consists primarily of activities, not of information. . . . English as a high school study is to be regarded primarily as an art, not as a science, and is to be learned by practice rather than by generalization.

". . . The relating of items of knowledge to the pupil's daily experience is more important than the relating of these items to each other in his memory."

ing, correct usage, grammar, and reading are taught as separate subjects, and so surely as the success of the school is judged by the outcomes of such purely formal and abstract learning, then the law of disuse operates to cause what Buckingham has termed "the greatest waste in education," the loss of knowledge and skills almost as soon as the school learning has ceased.[1]

Much of the present education fails, as Dewey pointed out in 1897, because:

> . . . It conceives the school as a place where certain information is to be given, where certain lessons are to be learned, or where certain habits are to be formed. The value of these is conceived as lying largely in the remote future; the child must do these things for the sake of something else he is to do; they are mere preparations. As a result they do not become a part of the life experience of the child and so are not truly educative.
>
> I believe that the teacher's place and work in the school is to be interpreted from this same basis. *The teacher is not in the school to impose certain ideas or to form certain habits in the child, but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these influences.*[2]

State departments and city syllabi and uniform examinations and, to some extent, the "standardized tests" have frequently emphasized learnings in the language field that have very little social justification even in the adult world. Both the content and standards of language work, and also the method of work promoted or required by language teachers are quite unlike those that are current among effective adult

[1] Cf. Buckingham, B. R.: "Greatest Waste in Education," *School and Society*, 24:653–8, November 27, 1926.

[2] Dewey, John: "My Pedagogic Creed," pp. 8-9. E. L. Kellogg and Co., 1897. Italics not in the original.

citizens. An investigation has recently been made by a committee of the National Council of English Teachers to find out what the demands actually are which are made upon the adult American to-day with respect to his own use of language, and what the difficulties are which he experiences.

The language activities in adult life as gathered from 2,615 different occupations by this committee indicate that the following are of prime importance: Interviews: word of mouth inquiries; reports to a superior; instructions for subordinates; conferences. Conversation: with casual acquaintances; at social gatherings; over the telephone. Public speaking: informal discussion; preparing addresses. Writing: informal notes and memos for one's self; formal notes of invitation, introduction, etc. Reading: legal documents. Listening: to an interview, a conference, or a public meeting.

The committee recommends that the schools devote more attention to the above-named activities which are widely used and which are reported as giving much difficulty by persons in many callings and in many social groups.[1]

Language Is Functional; It Must Be Learned Through Its Usage. It is obvious that these recommendations would be directly fulfilled if the socialized school simply exploited intelligently the present activities and experiences of the pupils. By this means the school could effectively re-enforce, guide, and direct the pupils' desirable responses in relation to school activities and in relation to their homes, their out-of-school companions, their neighborhoods, city, state, nation, and the

[1] Cf. Clapp, John Mantle (Chairman): "The Place of English in American Life." Report of an Investigation by a Committee of the National Council of Teachers of English. The National Council of Teachers of English, 506 West 69th Street, Chicago, Ill.

Cf., also, Johnson, Roy Ivan: "English Expression, A Study in Curriculum Building," pp. 45 ff. Public School Publishing Co., 1926.

world, their interests in vocation and in purchase of goods, and in their leisure-time occupations. The fact that these experiences are not alike for all pupils improves rather than decreases the likelihood of success. If all children had the same experiences and interests, there would be little need for purposive thoughtful expression.

The joy of being an active agent in enlightening one's fellows or in modifying their conceptions and attitudes is the most potent motive for reading and listening, for inquiring, interviewing, reporting, for giving directions and conducting conferences, for preparing addresses and speaking in public, and for writing out memoranda, formal reports, editorials, and persuasive public statements. While the level of achievement in such activities as these just mentioned will differ according to the original nature, experience, and special aptitudes of the children, there is none of them which is not undertaken anyway by nearly all pupils of socialized schools, and which does not lend itself to teacher-pupil partnership in improving the success with which it is done.[1]

On the other hand, every such activity opens up adequate opportunities for those pupils of broader experience, of specific aptitude, or of higher mental ability to find enjoyment in creative and artistic productions.

Too often have schools sought for higher types of activity in a rarefied atmosphere of adult literature, or in grammatical

[1] Cf. "Reorganization of English," Bulletin No. 2, 1917, pp. 26–27:

It is a mistake to regard English as merely a formal subject. The implication of such a view is that skill in the use and interpretation of symbols is the sole end sought and that this may be attained by drills upon technique quite apart from an interesting or valuable content. Only the specialist in language can be induced to concentrate his attention upon the forms of speech and writing as objects of interest in themselves. The attempt to induce children to do so, except during the early period when language forms are novel, invariably results in stultifying indifference, mere memory of words without real significance, and an utter failure to establish right habits of speech or of interpretation.

dialectics. Little positive result has come out of it,[1] and frequently the common skills and methods have suffered. Skills must be practiced and applied if they are to be maintained at high level. Business men complain that the schools do not accomplish what they are set up to accomplish, and this complaint is seemingly justified because young men and young women forget or are careless in their spelling, punctuation, sentence structure, handwriting, and the rest. Employers feel that their criticism is justified because they find it relatively easy to teach the fundamentals to ordinary boys and girls in business.[2]

What employers and many school teachers do not appreciate is that an increase in the quantity of abstract drill in school will not assure better results in business offices. Only as the skills are developed and used in response to the social and business demands of school and home and pleasure, will they surely transfer to post-school experiences. And in the language fields the development of such applied skills is both rational and relatively simple.

Perhaps it is the very simplicity of the language problem that causes it so frequently to be misunderstood. Our "mother tongue" is a part of our very lives; by it and in it we do our thinking; we solve our problems; it makes our adaptations possible. However, we can adapt our behavior or think or solve problems only with words that are meaningful to ourselves and to those with whom we associate. Our working vocabularies we have been developing since babyhood; we have learned them because we have needed to use them; indeed, we

[1] Briggs, Thomas H.: "Formal English Grammar as a Discipline," *Teachers College Record*, vol. 14, no. 1, Sept., 1913.

[2] Pope, F. S.: "The Output of the Public Schools," *Educational Review*, Feb., 1926.

have learned them in using them. This may be clearer if we ask ourselves why the sequence of letters c-a-t means more to us all than does the sequence a-o-r-i-s-t or s-i-n-e or t-r-a-c-h-e-i-d or g-e-n-e-r-a-t-o-r. All of us read into the first sequence some or all of such percepts as claws, soft fur, purring, tail, mice-catching, yowling, seeing-in-the-dark, and the like. Only those who are familiar with Greek apperceive a-o-r-i-s-t; only those who have worked with mathematics find s-i-n-e meaningful; biology students comprehend t-r-a-c-h-e-i-d; and science or mechanics students appreciate g-e-n-e-r-a-t-o-r.

Obviously, we must expand and refine our vernacular by experiencing more widely and more exactingly, and by reflecting on these experiences, talking about them, explaining them. One cannot short-cut this process, however, by learning lists of words and their definitions. For even if the words and definitions are memorized they can be fully used only as one needs them to think through or explain some experience whereof the concept represented by the sequence of sounds or letters is an intrinsic part.

The Language Arts Are Replacing Such Formal Separate Subjects as Spelling, Penmanship, Grammar, Composition, and Reading. Progressive practice in the junior high school tends toward breaking down the special fields of expression. In conventional seventh and eighth grade practice, there have been separate time allotments for spelling, handwriting, reading, composition, and grammar. In the junior high schools these are generally merged in the core-curriculum and are called "language" or "formal English" to distinguish them from "literature for appreciation." Very frequently, perhaps usually, the literature for appreciation and the language instruction are comprehended within one time allotment, but pretty frequently the recommendations of the National Joint

Committee on English [1] have been followed to the extent of making a clear-cut separation between impression and appreciation aspects, on the one hand, and expression and usage aspects, on the other hand.

Language Expression Arts Are Frequently Distinguished from Reading for Appreciation. In making this separation, junior high schools have sometimes had to take the very artificial and formal step of assigning certain days or weeks or months to literature, and others to expression. Occasionally, when the separation has first been made, such schools have taken the extreme measure of placing composition and usage instruction in the hands of one teacher and reading and literature activities in the hands of another. This division was made with considerable success at Solvay, New York, in 1914; and in connection with the Los Angeles curriculum revision in 1922, it was advised by implication by Bobbitt who set up separate programs for English Expression and for Literature and General Reading. "The less the general reader sees the technique of producing effects, the more perfect may be the illusion of life produced by the reading." [2]

The union of literature and language study is as a matter of fact largely traditional. In the modern world the books and magazines that cultivated people read deal quite as much with science, politics, economics, and travel, as they do with fiction, philosophic essays, or with art forms. Hence, the school will make more effective contribution to the community's reading practices, if it assigns the literature and general reading activities to teachers who in their private lives do a great

[1] Cf. "Reorganization of English in the Secondary Schools," U. S. Bureau of Education, Bulletin no. 2, 1917, p. 28.

[2] Bobbitt, Franklin: "How to Make a Curriculum," p. 83. Houghton Mifflin, 1924.

deal of general reading in the broad fields of drama, poetry, fiction, philosophy, economics, and nature.

Those teachers to whom language work is assigned may then emphasize the uses of the mother tongue as the vehicle by which thought is made clear, definite, and forcible.[1]

More generally, however, progressive schools content themselves with a separation of English time into expression, oral and written, and appreciation. At the Blewett Junior High School, this separation was made so that during each quarter-year of ten weeks, oral and written expression were emphasized for four weeks (two weeks each) and literature and reading were promoted for four weeks. The remaining two weeks of the term were left to the discretion of each teacher and use of them depended in part on the teacher's own enthusiasms, and in part on his interpretation of the special needs of his classes.

The eighth grade course of study in language at Blewett as developed by the English Committee and formulated by its chairman, Mr. E. E. Chiles, is quoted in part below. It sets forth the uses of intra-class, intra-school, and extra-school experiences with which pupils are familiar.

Aims

The aims of instruction in the eighth grade may be expressed as follows:

1. To teach the general principles of paragraphing, taking as a minimum standard for the grade the power to speak and

[1] Bobbitt, Franklin, ibid., pp. 238–9.

". . . We say that language is vague, crude, or confused, when really it is the thought back of it which is vague, crude, or confused. Thought-power is dependent upon language-power. Language-power depends upon thought-power. They are twin factors that must grow up together."

write single paragraphs of good quality and showing a command of sentences of flexibility and variety.

2. To give due attention to such details of expression as grammar, handwriting, spelling, delivery, vocabulary and sentence exercises, and manuscript form—so that they may serve aims 1 and 3 in a functional sense.

3. The continued practice of oral and written expression on themes of sufficient length to insure a full mental reaction on the part of the student and a consequent manifestation of continued growth.

First Two Weeks (one-half oral work, one-half written).

Class project. Practice in the use of friendly letter and business letter and learning their forms.

Structure. Make a rudimentary study of paragraphing. Note the paragraphing of the models. See that the study carries over to some extent into the written work of the students. Do not force the issue on structure too hard at first; many returns to the study of paragraphing are made in the course, and mastery of the subject is to be made gradually.

Group projects:

Friendly letter. Students may be paired for correspondence, and may recite in pairs, one student reading first letter; the other, the answer. Or a student may be paired with some one outside the class and both letters read by the same student. An excellent device is the division into larger groups comprising from six to ten students, pairs being made within the group. This permits the planning of group programs of a length to occupy the first part of the period. It also stimulates group rivalry, a much stronger thing than individual rivalry, or rivalry between pairs. Besides this, it gives the individual student the benefit of a group judgment in planning the work to be presented.

Business letter. Use real or simulated business situations, with the same groups as before. Divide the groups according to content of letters to be handled; i. e., The Department Store Group, The Sporting Goods Group, The Grocery Group, etc. Let the groups organize as a correspondence unit, some

taking the parts of storekeeper and employees; others the parts of customers. Following a group program, let the chairman of the group make a summary of the work, presenting to the class the good and the bad in the letters.

General method. In the work with both friendly and business letters, there should be the oral stage, in which attention is to be centred upon content alone; and written stage, where content is stressed as aided by form. In the transition from oral to written work, the teacher-class development necessary will require a considerable pause in the progression of recitations. The class as a whole should have a clear idea of the new content and its use; it may be necessary after developing the matter of form to give the students opportunity to do copy or dictation work under supervision before allowing them to proceed with further program planning involving the use of the new content. Make full use of the supervised study period for student planning and group work. Supervise each group separately. Supervise individuals that fail to co-operate or keep pace with the group; that is, get them started and put them back into the groups.

Functional formal drills. Stress good usage drills and teach such small items of formal grammar as will serve to guide students in avoiding mistakes in speech that have appeared. (It should be noted again that incidental daily drills of various sorts are given in the period allotted for critic-class-teacher judgment of group work.)

Second Two Weeks (Literature and General Reading).

Third Two Weeks (half oral, half written).

Class project. Practice in oral and written themes and conversation on a variety of student interests, with stress on oral work.

Structure. Enforce the idea of the paragraph further by increased insistence on clear massing of thought into oral and written paragraphs. Teach the elements of good delivery.

Group projects. For the sake of securing a highly motivated response, continue the principle of division into recitation

groups. Assign each group a phase or several phases, according to content, of the class project. One group may tell of different trades, another of professions (teacher, doctor, etc.), and so on. See that each group has a distinct and separate content to render. Groups respond better when they have distinct contributions to make to the class audience. Have a variety of topics ready to suggest.

For practice in conversation, the students may be divided into groups as for other work, each group being given a topic to discuss and sent to a separate place in the classroom to discuss it. The teacher can "sit in" at the different groups, note the manner of the discussions, and gather notes for the general discussion to come later. .

General method. Oral stage, development of class and group projects, followed by oral programs and discussions; written stage, raise problem of written form, then develop another series of group recitations with attention to the new content, writing the work in proper form. The teacher should determine in what the class needs most training—in finding topics, in planning, or in writing out the themes—and stress this. Although themes must be written, they should nevertheless be read to the class as an audience. Students soon lose interest in writing themes that have no audiences.

Fourth Two Weeks (Literature and General Reading).

Fifth Two Weeks (assigned to "take up" according to each teacher's discretion).

Sixth Two Weeks (half oral, half written).

Class project. Further sharing by students of the content of friendly letters, and learning how to use the formal note.

Structure. The idea of the paragraph is now to become fairly well fixed. This should be ascertained by inspection of the letters and notes written. Point out that the formal note is a single paragraph. Also have the class practice on single paragraph letters, or upon single paragraphs of larger letters, if desired.

Group projects. Compare the directions for the first five weeks for general procedure. The formal note will serve naturally in connection with the group programs of letters.

General method. After the letter-writing project is planned, and before the class proceeds to preparation, introduce the subject of an additional audience. Suggest that there are others, such as students in study hall, other classes, or parents, who might enjoy hearing the recitation. This leads to a discussion of means of notifying them; and this again to a discussion of the formal note. Reference may be made at this point to the models in the text, and a discussion of the points of such a note may follow. Let each group decide upon some one to invite; let each member of the group write a note; and let the group pick the best one to send. This will give as many invitations as there are groups. It may be well to bring up the question of the capacity of the room in the development preliminary to this last step. When the invitations are ready to send, proceed with the group planning of the programs of letters.

Seventh Two Weeks (Literature and General Reading).

Eighth Two Weeks (half oral, half written).

Class project. Further practice in oral and written themes and conversations on a variety of student interests, using simple stories, descriptions, explanations, or debates, according to which serves the situation best. Make an elementary development of the outline. Compare also the work of the second five weeks.

Structure. No points of structure are added this semi-quarter. Continue incidental attention to speaking and writing in paragraphs. One may now take it for granted that the students are fairly well habituated in the habit of dividing their themes into parts.

Group projects. (Compare the second five weeks, this heading.) By this time students should be fairly well habituated in the manner of group work. Look for increased facility on the part of the students in conducting themselves as an organized group. Further the growth in class independence through the

use of parliamentary procedure as a means of self-government. In the written work for this semi-quarter, the groups will be dealing with the outline; hence a few points on this phase of the work may be helpful. Assignment of group topics may be made as in connection with previous work. A new aim, however, will be to develop a usable and efficient outline. A given group may put its work on the board, explain the order of points, subordination, etc., and receive the criticism as of other groups.

General method. Continue the use of part of the class period for problem development and supervised preparation. Inasmuch as learning the use of the outline is a rather heavy piece of work involving much problem solving and reflective thinking, it will be well to omit the written themes and base the study of outlining directly upon the oral talks. Develop fully the necessity of planning for growth in efficiency in expression. Strong motivation and careful teaching will be necessary to carry the students through this work. Develop the outline carefully, using one or more models; then have the students execute an outline on a subject closely parallel to one developed. This takes them through the mechanics of the operation with an accompaniment of easy thinking. Success with this step means confidence in the next. Next give a subject a little more difficult to outline, that is, one requiring more thought. Let the class work on it, and note by observation of individual work whether the development has proceeded far enough for it to be advisable to send the class into the preparation of the lesson. If the development has not proceeded far enough to give power in outlining themes to the same degree of difficulty as those the students expect to handle, select such a theme and develop it completely or in part, as the case may require. Then try the class again on a parallel theme; and if inspection of individual work now shows a grasp of problem and procedure in solving it, let the preparation for the next day proceed. In the supervised study part of this work, follow up the development carefully; much individual guidance will be helpful, as well as economical from the standpoint of later progress. The necessity for an excessive amount of individual help, however, indi-

cates something wrong with the development rather than with the student. But the alert teacher will, no doubt, be capable of making the proper diagnosis.

Ninth Two Weeks (Literature and General Reading).

Tenth Two Weeks (assigned to "take up" according to each teacher's discretion).[1]

In the same way in successive two-week periods, Mr. Chiles has outlined projects by which pupils might gain further power and effectiveness in conversation and by which they might learn the two methods of recording written conversation, the dramatic and the fictional. In a similar manner, students might develop their interests through long narrative and explanatory themes or letters, they might thus be impressed by the fact that they have made a considerable growth in knowledge and in power of expression.

In the field of vitalized English expression no writer and teacher has been more concretely helpful than the author's colleague, Professor Howard R. Driggs. His recent text is peculiarly rich in setting forth specific helps in promoting and directing pupil activities that require the effective use of oral and written language.[2] With the author's encouragement and permission one of his many valuable lesson sequences is excerpted and adapted for this chapter. The reader will note how Dr. Driggs motivates and guides the pupil to tell his own story effectively.

[1] "Blewett Junior High School Eighth Grade Course in English, 1919–1920." From this outline have been omitted the directions for class and individual drill and the references which it contains to the pages of Potter, Jeske, and Gillette: "Oral and Written Language"; to Driggs: "Our Living Language"; to Bolenius: "Everyday Language"; to Sheridan: "Speaking and Writing English"; to Mahoney: "Standards in English," and other books such as were available at the time that the outline was prepared.

[2] Driggs, Howard R.: "Living English." University Publishing Co., 1927.

Travel Talks

LEARNING ABOUT OUR COUNTRY

In order to be a broad-minded citizen of any country, one must know something about the various parts and the different peoples of that country. One of the best ways to learn of people and places is to travel. In these days of railroads and steamships and automobiles many people are travelling far and wide. There are other good ways too of "going a-travelling" without actually making the trip. By means of good books,

A TRAVEL MAP DRAWN BY AN EIGHTH GRADE CLASS

magazines, newspapers, moving pictures, and radios, one may learn much of our country.

Still another excellent way of taking trips is through "travel talks." Doubtless you have heard some one tell interestingly of some place he has visited. A delightful kind of recreation for pupils of any class is to share with one another their most interesting experiences in travel.

Have you ever tried making a map of your journeys into different parts of our land? Think of some trip, long or short, you have ever taken. While you are getting the trip clearly in mind, an outline of our country will be drawn on the blackboard; then each of you may trace on the map some trip you have taken.

Lesson Assignment:

1. Think over your travel experiences. Select some interesting scene you enjoyed or some interesting incident connected with a trip, and be ready to give a travel talk.
2. Make a little outline to guide you in giving your talk.

Throughout the book the pupil's attention is directed to the expression of his own thoughts, his own desires, and his own feelings. He tells about his pastimes, his appreciations, his adventures, and his aspirations. The need of effective expression motivates his attention to choice of words, to punctuation, enunciation, pronunciation, letter-forms, abbreviations, and functional grammar. And to facilitate his attention and make his practice successful and pleasant, Dr. Driggs has furnished many pages of interesting exercises.

Is the Intensive Study of Grammar Justifiable? Aside from a very few rules and terms by which structure and usage may be rationalized and described, the significance of formal grammar for English expression is almost negligible. Our school procedures have been such that the most able senior high school and college students have naturally been very successful in the compulsory grammar drill incident both to the traditional studies of English and of foreign languages. These most able students express themselves most adequately because, being able persons, they think clearly. Since the able young men and young women both have known grammar and have expressed themselves clearly, superficial observers and commentators have said: The study of grammar results in

clear expression. But here they have fallen into a fallacy—*post hoc, ergo propter hoc*. For the factor of general ability is probably sufficient to explain the more effective English expression.

Thus, Asher found that grammatical knowledge and composition ability among college students were correlated to an extent represented by a Pearson co-efficient of 0.37, although grammatical knowledge and the ability to judge the correctness of sentences gave only a Pearson co-efficient of 0.23. But the Pearson co-efficient of correlation between ability in English composition and general ability, as shown by composite grades in all subjects, was 0.63.[1]

If formal grammar as such has no justifiable place in the junior high school course in language arts, the opportunity to promote a joyful vigorous educative process is enormously increased. But the reader must not suppose that there will be no drill. For drill must continue to hold a very important place whenever habits of usage and expression are to be made automatic.

Drill and habituation are futile only when they have little or no immediate social justification. But there are some facts and skills which are fundamental to social life and further learnings and which are, therefore, worthy of effort of teacher and pupils to master them.

The Progressive School and the Fundamentals of Elementary School Education. The motivation of drill in the language arts is not difficult. Unfortunately, however, it is traditional to superimpose the drill, such superimposition very generally robs them of all joy and satisfaction.[2] Whether the

[1] Cf. Asher, William: "Does Knowledge of Formal Grammar Function?" *School and Society*, vol. 17, no. 422, Jan. 27, 1923.

[2] Hatfield, W. Wilbur: "The Project Method in Composition," *The English Journal*, vol. 11, no. 10, Dec., 1922, vol. 12, nos. 1, 2, 3, Jan., Feb., March, 1923.

motivation is artificial and extrinsic, as in the case of a spelling or pronunciation "bee" or a handwriting exhibit, or intrinsic to the project in hand, as in writing letters to be sent through the American Red Cross to the children of Madrid or Paris, or in the preparation of an assembly or a debate, there is need for the isolation of pupils who need the drill and the development of devices by which they can practice and master the needed knowledges and skills.

Those who do not need the drill can be encouraged to engage with others in developing and carrying out class projects already under way, or they can be meeting as committees to initiate and plan new projects. They are thus encouraged to learn spontaneously, and to create—let them thus learn to live fully, expansively, and joyously.

Spelling. For those who do need to study spelling, it is first necessary to discover what words they do not know how to spell. Lists of words drawn from the Ayres Scale and from those that have been misspelled should be the basis of a pre-test. Then each pupil may list in a note-book those words which bother him. One very adequate device is the Allen Spelling Plan.[1] On all but the last four pages of this booklet are two columns, one marked "attempts" and one marked "missed"; on the last pages are columns marked "inexcusable"; i. e., words that have been missed and corrected once.

In the pre-test each pupil writes the words—twenty-five or fifty at a time—in the "attempts" column; he checks those he missed, looks them up in the dictionary, and writes them correctly among the "inexcusables." This list of corrected "inexcusables" becomes the pupil's spelling assignment until, on a test including all of them, he spells them all correctly. After a

[1] Published by Charles F. Allen, West Side Junior High School, Little Rock, Ark.

few weeks he is again tested on his "inexcusables" plus other words that may have been added to his working vocabulary since the previous test. Pupils who do not respond to such treatment should join a "hospital class." (See Chapter X.)

Handwriting. Most children when they enter the junior high school are able to write as legibly as the unspecialized life of the community demands, i. e., as good a quality as 50 on the Ayres Scale.[1]

That many of them are sometimes, perhaps often, careless is true—but this carelessness calls not for penmanship instruction but for eternal vigilance on the part of all of their teachers and their determination to accept no writing that is not legible and neat.

Pupils who elect commercial subjects may need continued practice and instruction to adapt and improve their handwriting to meet the needs and demands of business offices and business forms. Their handwriting is frequently too large and light for bookkeeping and for filling out cards; they frequently have not learned to make small, unmistakable figures (3, 4, 7, 2) or to print (r, f, t) as is required for many business forms. Frequently, they have been so drilled in an arm movement with pen and ink that they cannot fill out sales slips with pencils as is done in business offices. But such instruction and practice in penmanship and pencilmanship belong in the commercial electives, and not in the core-curriculum.

A few pupils cannot write legibly even after six grades of instruction—and in many junior high schools there will have been some over-aged pupils advanced from lower grades who need further instruction. For them, however, a hospital class

[1] Cf. Koos, L. V.: "The Determination of Ultimate Standards of Quality in Handwriting for the Public Schools," *Elementary School Journal*, Feb., 1918, vol. 18, pp. 423–446.

should be provided. (See Chapter X.) It is not fair to hold up the progress of pupils who can write for the very few who cannot.

Correct Usage. The remaining problem, and the main one, of the mechanics of expression is that of correct usage. Many pupils do need further instruction and corrective practices to overcome such barbarisms as "they was," "between you and I," "has went," and similar bad habits.

But relatively few pupils in most junior high schools make all the kinds of errors. It is necessary, first, to discover which pupils make these mistakes in written compositions, what ones make them through carelessness, and what ones through ignorance.

The difficulty in overcoming habits of incorrect usage lies precisely in the fact that language and thought are simultaneous. If one thought a sentence or a phrase, and then wrote it, he might choose his words consciously and reflectively. But one thinks with his tongue and throat when he speaks, and with these organs and his fingers and pen-point when he writes. Most incorrect usages are not due to ignorance or even to a "slip of the tongue." They are due to long practice in using an incorrect throat and tongue adjustment when thinking a phrase.

"He who hesitates is lost" runs the expression. When one's adjustments are right, this proverb is true. But when one's adjustments need mending, then only he who hesitates can be saved. We must help each pupil put obstacles in the way of his wrong S-R bonds. He must be made conscious of one or two of his outstanding shortcomings, and he must practice choosing the correct form. Thus, if he says "you was," he first learns that the correct form is "you were." Then, with a few of his fellow-infringers of usage, he practices the completion

of sentences in which the verb form *was* or *were* must be selected. If progress in overcoming his difficulties is not rapid, he should be referred to the "hospital" class (Chapter X).

Punctuation and Capitalization. A similar plan is of value in teaching punctuation and capitalization. Here, however, the problem is easier. For in written expression, one can change a form if he discovers that he has made a mistake, and there is no harm done. Indeed, most writers do this regularly. Written conventions can, therefore, be made conscious,[1] taught as knowledges, and inculcated by rigid insistence on correct forms in all work accepted.

Such consciousness, knowledges, and insistence should be based on constantly repeated devices for helping the pupils who punctuate inaccurately to discern the need for more precise punctuation. One dramatic device is to put two or three rhymes, unpunctuated and therefore most puzzling, on the board; thus:

Loud we sang adventuring and lustily we gested
Quarrelled fought and then forgot the taunt the blow the jeers
Named a friend and clasped a hand a compact sealed attested
Shared tobacco yarns and drink and planned surpassing years[2]

[1] Miss Grace Smith of the New Haven, Conn., schools has aroused the interest of her pupils in punctuation and capitalization and other mechanics of writing by telling the romantic story of their origins. She has explained to them how the word "capital" is derived from a Latin word meaning head; when it was felt necessary to separate thoughts, a head letter, generally very decorative, was drawn at the beginning of each thought. Then, because a circle is the emblem of completeness, it was placed at the end of each sentence, or thought. The monks used in their writings quotations from the Bible which they did not want to claim as their own words, so they encircled such words with a golden line, around which they drew a red line, meaning "some one's golden words within my own." The quotation marks are portions of these two circles. So with the other marks; the interesting origin will appeal and with a few illustrations the class will see the use and be ready to reconsider as to interest.

Unpublished paper on "The Place of Technical English in the General English Course," by Grace A. Smith.

[2] Knibbs, Henry H.: "Riders of the Stars," from "The Trail-Makers," Houghton Mifflin Co., 1916.

Sing me a song of a lad that is gone
Say could that lad be I
Merry of soul he sailed on a day
Over the sea to Skye

Billow and breeze islands and seas
Mountains of rain and sun
All that was good all that was fair
All that was me is gone[1]

Another device is to give careless pupils unpunctuated passages to read aloud. An example follows:

A voice aged and creaking like the house came from the inner darkness go away boy Stop beating at my door
Aw rats whats the matter with you burst out the irritated messenger. Ive got a telegram for you Dont you want it
What did you say croaked the voice again in tune with the door as it opened wider Did you say a telegram For me did you say
Yes yelled Patrick thats what i said Its about time old chap that you opened this door too Believe me i cant stand here all day even if you can[2]

A third interesting and enlightening method involves the building up of a sentence. Thus, *John went to the city*, may become: *The tall, good-looking John Wescott, son of Alderman James F. Wescott, who represents Ward J in the City Council of Worcester, Massachusetts, went with some friends who attend his school to the City of Boston, Massachusetts, the capital of the State, and one of the most interesting historical centers of the country.* Such a sentence gradually becomes more involved (in

[1]Stevenson, Robert Louis: "Sing Me a Song of a Lad that is Gone," *from Songs of Travel*, Charles Scribner's Sons.

[2]Willing, Matthew H.: "Practice Exercises in the Mechanics of Written English for the High School," pp. 21–22. Bureau of Publications, Teachers College, Columbia University, 1928.

this case absurdly involved) and requires punctuation in order to make it clear.

Pupils who require practice in punctuation and capitalization will thus come to a consciousness of their needs. For them practice exercises may be worked out, or they may be given one of the excellent practice exercise books which are available.[1]

Foreign Accent. In urban junior high schools there are many children of foreign parents who add to the incorrect usages learned in their homes and neighborhoods, a foreign accent. They may say *git* for *get*, *earl* for *oil*, *pore* for *poor*, and *Inklish* for *English*. In some schools, the problem is sufficiently serious to justify the formation of special classes in charge of teachers who are familiar with the phonetic technics involved. In most schools the problem is left to the regular language teacher with such co-operation from his colleagues as he is able to stimulate and direct.

The pupils who speak and write with grammatical correctness and who read efficiently but who nevertheless have a pronounced foreign accent must generally be dealt with in the regular language classes; those who have other fundamental shortcomings should be sent to special help classes where attention can be given to their specific needs. Devices of value in helping these children to overcome their deficiencies are explained in the chapter on Social Utility and the Fundamentals (Chapter X).

[1] Willing, Matthew H.: "Practice Exercises in the Mechanics of Written English for the High School," Bureau of Publications, Teachers College, Columbia University, 1928.

Uhl, Willis L., and Hatz, Luzia E.: "Practice Lessons in English," The Macmillan Co., 1928.

O'Rourke, L. J.: "Self-Aids in the Essentials of Grammatical Usage," Educational and Personnel Publishing Co., Washington, D. C.

Ward, C. H.: "Sentence and Theme," revised edition, Scott, Foresman & Co.

Articulation and Pronunciation. In the regular language arts classes frequently there will be needed special exercises and practices directed to helping many others besides those of foreign parentage to pay more attention to their articulation and to the pronunciation of the words which make up their vocabularies. There are pronunciation "demons" just as there are spelling "demons"; and there are bad habits of slurring syllables or of "talking behind one's teeth" that need constant and conscious practice if they are to be overcome. Pupils who articulate and pronounce without marked defects may be trusted to improve with the practice of motivated projects—debates, the reading of poetry, selling talks, applications for positions, and the like. Only for those who definitely need them, should drills be required. Each such pupil should discover, with the aid of his teacher and his classmates, his outstanding difficulties. These he should list, and find the sentences, poems, or social setting in which he makes the errors. Such pupils may assign themselves to articulation squads.

Occasionally, members of these squads may test each other. Sometimes the teacher will invite two or three of them who have similar shortcomings to sit near his desk, while the class is busy with its study. At such times the teacher will engage them in conversation; will ask them to say over and over sentences or short poems involving the articulations or pronunciations which are causing difficulty. Such sentences and poems, if memorized, may be repeated by the children to themselves and to others frequently outside of class. Under such stimulation and guidance, most pupils will overcome many of their difficulties with quite surprising rapidity.

The special help classes will, of course, deal with many children with similar difficulties. Some more detailed consideration of the problem is, therefore, given in Chapter X.

Mearns Has Expressed the Positive Attitude Toward Expression Activities. As the school's language work comes more and more to school expression, the artificial requirements of beautiful first drafts will accompany into limbo the time-worn topics that have served until a decade ago as "assigned topics" for compositions. Mearns has set forth effectively this changing procedure:

> . . . Our children write sprightly letters to flesh-and-blood friends; they construct real stories and print them; they keep minutes of actual meetings, report for the papers, compile a daily journal, write up the trade or profession that already has begun to call them. And, as we here prove, they write poetry.
>
> No longer is the "composition" a worrisome task dug out of books, tinkered by sympathetic elders, sweated over until Sunday midnight and brought in with a gasp on Monday morning. It is now a bit of joy done in regular minutes of the school session. And it is done naturally, as you and I write compositions—first, planned and thought over, then jotted down hastily, scrawled in pencil, feverish with the impulse of creation; here no thought of good script, or spelling, or fair margins; the bounding idea is spilled out on the page in gross quantity, sprawling, illegible, warm with life. Then it is sorted out, crossed off, interlarded, padded, punched, caressed into shape, recopied with care, punctuated, spelled, paragraphed, and grammared.[1]

The language arts are the instruments of children who feel and think and must express their feelings and thoughts or develop inhibitions that abort and distort both thinking and feeling. "Unexpressed is only half-thought." In this field, as in all truly educative procedures, our major interest must be not in the arts themselves, but in the children and their self-realization. It matters little how accurate the spelling and punctuation, unless the boy and girl feel the competence and satisfac-

[1] Mearns, Hughes: "Creative Youth," pp. 120–121. Doubleday, Doran & Co., 1925.

tion of having said something that they needed to say in order to have felt and thought adequately. It follows that the medium and manner of expression may not be alike for any two children.

Reading Is a Most Important Language Art. So far, in this chapter, emphasis has been placed on the language arts involved in expression. But the language arts include also the use of the printed page. The line between appreciative reading, on the one hand, and reading for consultation, information, and reflection, on the other hand, is not easy to draw. But, obviously, not all reading is done for, or results in, appreciation. The use of tables of contents, indices, marginal headings, topic sentences, and of card catalogues and readers' guides, are truly language arts. So, too, are note-taking, outlining or abstracting books and articles. And so, also, are oral reading and recitations of prose and poetry, truly language arts. These aspects obviously need more attention and intelligent planning than are usually employed on them. Many pupils coming from the sixth grade to the junior high school need little more than general practice to utilize the printed page effectively. Some are so wofully deficient that they succeed in overcoming their difficulties only in special help classes (Chapter X).

During the last fifteen or twenty years there has been a great enthusiasm among many educators for increasing every one's reading rate. It has been, perhaps, an accompaniment of our high-speed civilization. We have learned that, by and large, rapid readers retain best the meanings of what they have read. It has been shown that great improvements in reading rates and in assimilation can be developed by conscious effort to read more rapidly and to sweep the eye rhythmically through line after line.

For pupils who read with reasonable adequacy, however, sufficient speed and rhythm will generally come with practice. Like most subtle adjustments, consciously made adaptations need be worked out only for those of marked defects. For the rest, reading experiences, extensive and varied, are needed. Adjustments sufficient for each case will then be made by trial and error.

What the boy who dawdles through his books needs is not drill to develop eye-sweep so much as it is some exciting stories in which the hero is in danger of death in the next chapter. What the girl needs who reads the history text but does not know what she has read, is not vocabulary drill or reading exercises so much as it is practice in outlining or abstracting which may promote reflection. Common sense is sufficient guide in directing the reading of children who have made the elementary reading adjustments. There is a reading rhythm that accords with one's mental and emotional nature; such a rhythm will develop as reading experiences progress.

Reading is more than word recognition; it is more than eye-sweep; it is more than assimilation. Significant reading is often vicarious experience—if one reads rapidly enough and if he assimilates enough to live the life of the character, then he reads sufficiently well. Significant reading is often reflective. The lawyer, the educator, or the thinker who would try to race through the articles and books of his professional library would be mad. The pupil in whom we would promote the habit of reflection, of applying what he reads to the experiences of his life, of challenging the author's statements with his own beliefs or with the statements of other authors, does not need more speed or more facility in reading mechanics. He needs encouragement and recognition for his initiative and reflection.

It is doubtless true that some persons are keyed to a very high intellectual pitch; they read and assimilate very rapidly; they remember what they have read; and they reflect either as they go along or after they have completed their reading. As yet, however, we do not know how Macaulay learned to read and remember what he had read almost as rapidly as he could turn the pages. Thorndike is said to "gulp his pages"; others run their eyes down the middle of the pages and by some subtle process get the drift of the argument. If such a tempo is natural, experience will develop it. If it is unnatural, the person who tries to imitate the great readers will come to grief. No doubt, all of us could read more effectively than we do, just as we could write better, paint better, walk better, fight better, and play golf better. If, however, we are not too deficient, we will improve with experience; there is no need for feverish "drives." The teacher of language arts should encourage extensive and varied reading and let the child make his own adjustments.

Goals of Achievement in the Language Arts. Obviously, the pupils at the beginning of adolescence differ markedly in their native alertness and sensitiveness to values of expression. Fully as great is their variation in home and neighborhood environment and ancestral lingual trainings. Many children are, indeed, almost compelled to be multilingual, responding to their companions with language complexes that are approved by them. In a foreign section of the city the junior high school boy may be expected to talk an Italian dialect with his parents, a colloquial English with his fellows, and a grammatically accurate English in his school. He spends very few hours a week with his English teacher and during much of that time little English expression is involved. Only occasionally in other subjects does he express himself, even in well socialized

schools; in formal schools, he almost never expresses his own thoughts and desires and appreciations rather than those of the book or the teacher. It is not strange, therefore, that the home and community rather than the English teacher and the school are effective in controlling English usages.

Is the case hopeless? Not if the school will face reality and resourcefully. The school can set up expression activities in many if not all of its subjects; very reasonable and definite goals of achievement can be set forth for all pupils in all classes—and, to an extent, for all school activities. All teachers can be expected to (required to, if necessary) hold pupils up to these achievements exactly as they now hold them up to standards of promptness, permissions, excuses, and the rest.

Minimal Standards of Usage Must Be Reasonable and Universally Achievable. The activities must, however, be of intrinsic worth and the standards socially justifiable; else, there will be little joy and true expression of thoughts and feelings, and, hence, little transfer of skills and habits into the lives of the pupils. That written work shall not be accepted until revised if any word of a minimal list is misspelled, if the handwriting is not so good as quality 50 on the Ayres scale, if proper nouns are written with small letters, or if singular verbs are used with plural subjects, might serve as reasonable standards for seventh grade written work. Occasional "drives" for universal maintenance of these standards in the school will assure a good-natured co-operative competition between room-groups and individual teachers and pupils to keep "up to standard." This will promote similar usages among the pupils outside the school, provided the veto or taboo of his companions is not too great.

At the University High School of Chicago University very highly selected pupils come from the homes of professional

people and business executives. The feasible minimal standards of English usage can, therefore, be held up at a relatively high level. At this school, however, far greater discrimination is utilized in setting the standards than in most systems in which standards must be less severe if they are to be maintained.

At the University High School each pupil is given, at the beginning of the seventh grade, a small book called "Standard Usage in English." The book has flexible covers and has holes punched in it so as to fit into the front of the pupils' notebooks. During the seventh grade, pupils are helped to gain a complete mastery of these minimal skills and habits—using the Morrison formula for complete mastery—pre-test, teach, test again, adapt instruction, teach again (those who have not yet gained mastery), test and teach to the point where all have attained mastery.

The standards which all pupils and instructors are required to maintain thereafter may be briefly described as follows:

I. Form of the Manuscript: Definite regulations regarding materials; arrangement of the page; endorsement; the folding of papers; insertions and corrections; quotations and references, are prescribed. (These are described and illustrated on pages one to four of the manual.)

II. Handwriting: Qualities 13, 15, and 18 of the Kansas City Scale for Measuring Handwriting appear on pages six and seven. Then qualities of good handwriting are cited and the student is urged to attain quality 18 which is called, "The ideal for all."

III. Capitalization and Punctuation: Eleven rules and standards for capitalization and thirteen rules for punctuation which cover all of the probable exigencies of school boy writing are set down.

IV. Outlining: Two standard forms of outlining, one of

the topical type and one of the sentence type are given as models for the pupils to follow.

V. Spelling. The one thousand words contained in the Ayres Spelling Scale are recommended for intensive review. Students are referred for guidance to "The Century Handbook" and to five simple statements of standards given in the manual. Instructors are directed to return as unacceptable every paper which contains misspellings; especially, if the papers have been prepared either in the class laboratories or at home.

The manual contains a presentation of the grammar of the sentence and some advice regarding sentence formation.

Uses of Tests and Measurements in Improving the Pupils' Command of the Language Arts. In the various aspects of the language arts, there have been a decade and a half of activity in the making, the use, and the reconstruction of standard tests. In handwriting, Thorndike's scale for measuring beauty of penmanship was followed by Ayres' scales for legibility. Gray's score-card and Freeman's diagnostic scales appeared somewhat later. The one most generally used is Ayres' "Gettysburg" scale—so called because all samples include the same words from Lincoln's Gettysburg Address; this scale contains only the semi-slant writing which is generally taught in school. If, therefore, pupils are asked to write this speech without previous special writing practice on the sentences involved, using semi-slant writing, as they usually do, the measurement is likely to be more readily and more accurately made. If pupils' writing is obviously illegible they may be given special exercises; they may be encouraged to use more care, or they may be transferred to the special help group.

In spelling, the most common valid scale is the Ayres Scale made up of a thousand words commonly used and standardized for each grade. Such a scale will obviously not test the thirty-

five hundred or four thousand words which the spelling enthusiasts recommend should be taught. It will, however, test the words of which all the pupils are likely to have frequent need—and that is enough.

The Stanford Achievement Test, Forms A and B, offer equivalent tests for reading for paragraph meaning, sentence meaning, and word meaning; for language usage; and for dictation (spelling). These tests are standardized for grades, for age, and for intelligence levels. They are, therefore, peculiarly valuable in indicating roughly the quality of treatment needed by each child.

There are a great number of silent reading tests available, the most frequently used of which include those of Stone, Thorndike-McCall, Gates, O'Rourke, Monroe, Whipple, Van Wagenen, and Haggerty.[1]

In expression, the standardized tests are much less adequate. Composition was one of the first school arts for which tests were available. "The Hillegas Scale for the Measurement of Quality in English Composition for Young People" was published in 1912. It is inherently difficult, however, to get uniform judgments in the use of such a scale—though the

[1] Stone, C. R.: "Narrative Reading Tests," Public School Publishing Co., Bloomington, Ill.

Thorndike, E. L., and McCall, W. A.: "Thorndike-McCall Reading Scale for the Understanding of Sentences," Bureau of Publications, Teachers College, Columbia University.

Gates, Arthur I.: "Silent Reading Tests," Teachers College, Columbia University, Bureau of Publications.

O'Rourke, L. J.: "Silent Reading Test," Educational and Personnel Publishing Company, Wash., D. C.

Monroe, W. S.: "Standardized Silent Reading Tests," Public School Publishing Co., Bloomington, Ill.

Whipple, G. M.: "High School and College Reading Test," Public School Publishing Co., Bloomington, Ill.

Van Wagenen, M. J.: "Reading Scales." Public School Publishing Company, Bloomington, Ill.

Haggerty, M. E.: "Reading Examination," World Book Company, Yonkers-on-Hudson, New York.

variation of judgments for quality is greatly decreased by the use of the scale as compared with judgments based by teachers on their own unformulated standards.

Trabue, Hudelson, and Lewis have all published scales based on modifications of the Hillegas technics.[1] Lewis has narrowed the examples to social usages, letters. Trabue and Hudelson had pupils compose themes using the same topic, thus aiding scorers in making comparable judgments. Hudelson has, in fact, proposed practice exercises in scoring so that teachers who purpose to use the scale for their pupils can measure and improve their own abilities to score papers, before they mark the pupils' papers.

The most usable scale known to the author is, however, the Driggs-Mayhew Five Point Scale standardized for grades and ages. The differences between the qualities of five samples are so great that it is not difficult for an intelligent teacher to locate the quality of the paper to be measured in terms of the Driggs-Mayhew Scale.[2]

Such scales tend to give teachers objective measurable qualities of composition for guidance in the direction of pupils' efforts. It decreases the too frequent lack of continuity of objectives from grade to grade—or even from week to week with the same teacher. Pupils, graded by such scales, are marked on their success in expression; their marks are no longer dependent on extraneous matters—handwriting, neatness, arrangement, and the rest.

[1] Trabue, M. R.: "Supplementing the Hillegas Scale," *Teachers College Record*, 18: Jan., 1917, p. 51.
Hudelson, Earl: "English Composition Scale," World Book Company, Yonkers-on-Hudson, New York.
Lewis, E. E.: "Scales for Measuring Special Types of English Composition," World Book Company.

[2] Driggs, Howard R., and Mayhew, Alfred F.: "Driggs-Mayhew National Scales for Measuring Compositions," The University Publishing Co., 1927.

There are special tests in punctuation, capitalization, good usage, and sentence structure designed to ascertain pupils' individual difficulties. Especially commendable are the tests compiled by Pressey (and others) in the fields of capitalization, punctuation, grammar, and sentence structure.[1]

Another test to be recommended for those pupils who have difficulty with punctuation and capitalization is the Briggs English Form Test (Alpha and Beta)[2] Both of these forms consist of a group of twenty sentences all of which lack capitals and punctuation marks.

For those pupils who have outstanding difficulties with pronoun or verb usage, the Charters' "Diagnostic Language Tests" may be used advantageously.[3]

Summary. There is a very close relation between language and social life, between language and thinking, and between language and emotional states. Of whatever we are conscious, we have verbal connotations. The language arts, therefore, are the common carriers necessary to intellectual, emotional, and social development. Says Gosling:

> . . . The mother tongue for American girls and boys is a part of the very warp and woof of life. It is not an external thing which like a garment can be put on or off at will. It is so closely connected with thinking and with other aspects of normal living that it can scarcely be dissociated from them. Consequently teachers of English must accept pupils of the junior high school years at the level of mastery of English where these pupils happen to be, and on the basis of that present level of

[1] Pressey, L. C. (and others): "Diagnostic Tests in English Composition for Grades 7 to 12," The Public School Publishing Company, Bloomington, Ill.

[2] Briggs, Thomas H.: "English Form Test (Alpha and Beta)," Teachers College, Columbia University, 1920.

[3] Charters, W. W.: "Diagnostic Language Tests," Public School Publishing Co., Bloomington, Ill.

mastery, make possible the attainment of higher levels according to individual needs and individual capacities.

When we think of English as the food of life and indeed as a mode of life itself, we at once exclude the idea of failure. *Freedom, guidance, growth* do not permit failure, for they are life, and life indeed goes on through all vicissitudes.[1]

Junior high school life is joyous, adventurous, and enthusiastic. The language arts are intrinsically important in all aspects of junior high school life—the pupils play football with language, they sell papers, they give orders in the corridors, they carry on assemblies, they publish papers, they conduct their recitations, they interview the principal, they argue in their councils, and they express loyalty to their school through the language arts. It follows that any positive concepts of the teaching of language arts must take into account the vigor, the spontaneity, and the eagerness which characterize the junior high school and which must reflect themselves in language classes.

[1] Gosling, Thomas W.: Address before the Junior High School Conference Department of Superintendence N. E. A., Dallas, Texas, March 3, 1927, "Attaining the Objectives of the Junior High School Through the Course of Study in English."[2]

CHAPTER VII

APPRECIATIONS

In the junior high school full recognition should be given to the fundamental educational importance of moods and feelings, likes and dislikes. They are far more pervasive and influential than are the more purely intellectual processes. Very seldom can one "think" analytically without interfering with his intuitive "feelings" or very subtle judgments. The beauty of a sunset, a poem, a melody, a picture, a statue, or a landscape cannot be evaluated objectively. It is an individual judgment; it is based on appeal and satisfyingness. The moment one begins to analyze beauty or goodness the evaluation loses its subtlety; its significance ceases as its emotional quality diminishes.

How beautiful is the view across the lagoon and the sound from my front porch? How tenderly does a mother love her child? All experience, all feeling of fitness, allow of no intellectual analysis on which to base answers to these questions. The very question marks seem out of place; they must be replaced by exclamation points. If the lagoon and sound were not most beautiful this morning, they would not stimulate any comment at all. If the mother's love were not very tender, then would she be a "mother," as we use the word?

There is, in fact, an emotional warmth implied in appreciation that is essential to attitudes and ideals. Such a quality is frequently not constructively present in processes of knowledge-getting or habit-formation. Appreciation is sometimes a by-product of such learnings; it may often be the driving force

which motivates them. But it is not readily analyzed out of the learning process.

Feeling Is Fundamental to Appreciation. Attractive teachers who do appreciate sincerely, tolerantly, and richly, and who are in sound emotional health are needed; they alone can be effective in helping children to feel more richly and judge more discriminatingly than they otherwise would. It will not matter very much about what knowledge the children learn in the appreciation lessons. *But how they feel about these lessons will be of tremendous significance.*

To this end, teachers will need to develop a technic based on the art of the actor and the methods of commercial advertising. Hayward advises the teacher to build up children's anticipations of lessons that are to occur in the near future—hints to be dropped, announcements to be posted, references to the occasions as they become "pat" in connection with other classes. He points out that this may help the teacher himself to look at his work more effectively.

To avoid the intellectual distractions that would come from speculating as to the meaning of the appreciation lesson, Hayward would have enough preliminary instruction to assure to the pupils general familiarity with any unusual or difficult aspects of the picture, poem, scene, story, song, statue, or dance to be enjoyed.[1]

The clear separation of this feeling aspect of nature and art and bodily movement from the intellectual will permit the classes in science and mathematics, in art and music, in physical education and recreation, and in industrial and home arts, to provide for those pupils who are interested in technics and problem-solving and the attainment of skills. Such knowledge

[1] Hayward, F. H.: "The Lesson in Appreciation," p. 13. The Macmillan Co., 1922.

and skill will not often decrease in any way the student's power to enjoy the appreciation class—indeed, generally, the appreciation is deeper because of this added knowledge. The botanist's appreciation of an orchid may be more complete than that of a person who merely enjoys the coloring; the violinist who hears a familiar piece rendered by an artist may get many pleasing reactions which are denied to the auditor who hears merely some beautiful violin music. But this is true only if the botanist or the violinist is in an appreciative and receptive mood.

The mood, the emotional state of response to the beauty, the strangeness, or the movement, is the *sine qua non* of appreciation. The observer or auditor finds himself thrilled, challenged, "lost in contemplation,"—often he feels a vague, religious sensation of emotional participation or identification with some elements or characters involved. The beauty and depth and value of the emotion aroused in the individual by a scene or a play or a book are the measures of its value to him.

Kilpatrick would identify appreciation with those marginal responses to educative experiences which cannot be assigned to specific causes or effects. If we will stress activities, enterprises, and experiences which enlist the heart and soul of childhood and youth, broader and deeper appreciations will result. From such vital experiences and from them only must be got such marginal responses as will build the attitudes we wish.[1] Appreciations are not fixed or standardized. They are not permanent and stable. They are individualistic, flexible in degree, and varying in scope. They depend on mood and on temporary attentiveness.

[1] Kilpatrick, William H.: "Foundations of Method," p. 129, The Macmillan Co., 1926.

The Junior High School Emphasizes Emotionalizing Activities as the Basis for Appreciations. How then should the junior high school set itself to the task of promoting and directing the acquisition and growth of appreciations and ideals? Obviously it must utilize chiefly those educational activities which can make an emotional appeal to children.

All instruments of education, whether subjects or social activities or researches, may perhaps stir the desires and enthusiasms of some youths and, hence, may lead for them to the development of appreciations. But not all instruments apply equally to all pupils. Some instruments, such as mathematics, may stimulate the active interest and the zealous participation of relatively few pupils; whereas others, such as the singing of songs, pleasing in melody and simple harmony and connoted mood—such songs as the *School Song* or *America the Beautiful* or *Carry Me Back to Old Virginny*—may arouse the enthusiasm of the great majority of them.

It is what we experience with the fullest enjoyment and enthusiasm which fixes our level of appreciation. One person may find pleasure in discussing conventionally accepted music, literature, art, or standards of home life. Another may enjoy jazz music, doggerel verse, and Keith Vaudeville, exclusively. If his companions generally approve and share such practices and enthusiasms as he has, then his "active or working measures of valuation are fixed on the ragtime level."[1] It is the school's function to enlarge and elevate his valuations by encouraging him to participate in more significant and more permanently enjoyable aspects of appreciative living. But to do this the school must start with experiences that now lie within the interest range of the pupils.

Pupils of junior high school age do in fact read with intense

[1] Dewey, John: "Democracy and Education," The Macmillan Co., 1922.

interest and abandon such magazines as *True Story*, *True Romance*, *Love Story Magazine*, *Red Book*, *Western Story*, and *Radio News*, but they also read quite as eagerly *Popular Mechanics*, *Popular Science*, *Literary Digest*, *The American Boy*, *American*, *Collier's*, *Saturday Evening Post*, *Ladies' Home Journal*, *Woman's Home Companion*, *National Geographic Magazine*, and *Boy's Life*. Obviously, the stories and articles in these magazines interpret experiences and stimulate emotional states that the children find pleasing and that are approved by their companions. If the school would elevate the standards, it has in such a range of magazines as those listed, an opportunity to exploit already existing desirable reading tastes such as the second list above implies. Unfortunately, many schools neglect utterly all magazine reading and depend on books which, whatever their merits may be, do not interpret or express any emotional states or interests that considerable numbers of junior high school boys and girls feel. Hence, their effect on appreciative reading is worse than negligible, for they discredit both school and teachers in the children's eyes.[1]

[1] TEN MAGAZINES MOST READ BY 3,539 YOUNG WORKERS IN MILWAUKEE AND BY 1,739 CHILDREN IN GRADES I TO XII OF FOUR WISCONSIN VILLAGES AND ONE CITY

Workers in Milwaukee from 14 to 18 Years of Age		Pupils in Four Wisconsin Villages and One City
BOYS	GIRLS	
True Story	True Story	American
Popular Mechanics	Collier's	Literary Digest
American	American	Saturday Evening Post
Saturday Evening Post	Woman's Home Companion	Popular Science Monthly
Collier's	Ladies' Home Journal	Ladies' Home Journal
Radio News	True Romance	True Story
Western Story	Photoplay	McCall's
Literary Digest	Love Story Magazine	American Boy
Popular Science Monthly	Red Book	National Geographic
Red Book	Pictorial Review	Boy's Life

All magazines are named in the order of frequency mentioned.
The Teachers Journal and Abstract, vol. 2, no. 7, Sept., 1927, p. 455.

If the school will take the actual enjoyed experiences of boys and girls as a basis for its courses, it will find a wealth of feeling accompanying their efforts to conduct their student activities. Indeed, there is more likelihood of emotional warmth in connection with school loyalty or in their efforts to build a model aeroplane or to serve a meal to the school's guests, than there is in the reading of "Evangeline," the singing of "Nancy Lee," or the viewing of works of art or listening to a symphony.

There is danger of underestimating the emotional warmth of intellectual responses or, what is much the same thing, the increased intellectual activity that results from the emotional drive. Thus, a boy may learn in the shop not only a joy in fine workmanship but also an almost affectionate regard for the people who are now engaged in, or perhaps have in the past been engaged in, the construction or designing for which he has developed such an interest. His enthusiasm may give direction to his reading, to his music, to the friends he selects outside the school, to his relations with his parents, and even to his philosophy of life.

Appreciations Are Not Confined to Literature, Art, and Music. It is, then, a serious mistake to regard appreciation as though it were confined to such things as literature and pictures and music. Its scope is as comprehensive as that of education itself. True appreciations are rife in most good junior high schools. But, too often, teachers of "appreciation" subjects do not recognize them—for their class work touches not the pupils' feelings.

In a word, whenever evaluation under guidance is made honestly and unaffectedly by pupils, then we have appreciation. Teachers' domination and superimposition of standards, models, and judgments are unnatural and wholly undesirable. They lead to unthinking acceptance of ready-made stereo-

types which is in a real sense the very antithesis of appreciation. Honesty and critical but sympathetic scrutiny of values and of one's own emotional reactions to pictures, characters, times, designs, stories, and poems are fundamental to appreciation. Whatever is beautiful or worthy or inspiring to the individual is appreciated because it is appealing. Without appeal there is no appreciation.

Not "Culture" but Gripping Interests Are Sought. A clear distinction ought to be made between the refinements, adornments, "culture," bits of knowledge and skill, such as are sought by people of leisure who wish to be considered members of the "cultured" class, on the one hand, and, on the other hand, a gripping interest in literature, music, philosophy, or science. If the pupil merely learns about "culture," then he may be "well-informed." But if he feels and lives and desires more deeply as a result of his education in appreciation, then will his growth continue throughout life.

"I have never got over the shock," writes Dr. Richard Cabot, "in discovering that the men with whom I took Philosophy IV under Professor George Herbert Palmer as a Harvard undergraduate had no idea of bettering themselves, of changing their habits or building up their own plan of life. They took 'ethics' as a part of 'general culture'—to find out what it was about, not with any practical aim concerned with their own characters." [1]

Selected Community Enthusiasms Guide Teachers of Appreciation. The desirable content of junior high school "courses" in appreciation can be indicated only very vaguely. What would be taken up in such classes, and when and how it would be presented, would depend very largely on the interests that were gripping the community outside the school

[1] Cabot, Richard: "Ethics and Education," *Survey Graphic*, June, 1926.

at the time. In homes, in churches, and in neighborhoods are found men and women interested in observing and enjoying beautiful skies, lawns, pictures, and human associates. Through its architects, its gardeners, its builders, its newspapers, and its civic associations the community is expressing its own desire that its parks, its public buildings, and its streets be sightly, fitting, and, to a degree, beautiful.

Some adults with whom the child may come in contact have the pleasant habit of observing and reading about men, things, and affairs; some visit museums, galleries, and collect in their own homes originals or copies of beautiful pictures; some read books and magazines to satisfy interests of one sort or another; others converse and argue or spend time in quiet thought "reflecting" on the world and its problems; still others attend concerts, lectures, contests, clubs, and lodges to satisfy some desire for enjoyment; and others, again, tramp, fish, motor, experiment, "putter," build trellises, and care for gardens. These groups are not mutually exclusive; nor is it true for any individual that he follows the same leisure time activities consistently.

It is in a world characterized by these richly varied leisure-time interests and activities, none of them harmful, many of them worthy and beneficial, that the child lives. Other uses of leisure there are—many of them harmful, or at least unworthy of encouragement. Loafing around stores or clubs or corners, gambling, stealing, destroying property, and indulging in harmful sex practices characterize the environments of many boys and girls. There is no clear demarcation to indicate what activities are harmful, merely harmless, or worthy. But the school can give its primary encouragement to those which are surely worthy of encouragement and which recognizable groups in the community now sponsor and practice. Only after

careful thought should the school attempt to initiate totally new interest and activities which have no counterpart in those practices of the community with which children may be brought into personal contact.

In making the choice of problems or topics or experiences for the curriculum, primary regard would be had for the probability of community re-enforcement through the newspapers, moving pictures, church occasions, distinguished visitors, the unveiling of a monument, the occurrence of holidays, and other such community affairs. The general enthusiasm aroused by these instruments would make the pupil's new interests satisfying to him, through sharing them with his parents, neighbors, and other friends, both youths and adults. As these pages are being written the country is thrilled by the successful adventures of Charles Lindbergh and Chamberlin and Byrd. Here is adequate motivation for appreciative reflection on pioneering and adventure and on the wonders of science. History, geography, biography, general science, and, very likely, practical arts, art, and music might readily find primary or secondary stimulation from such occasions. Think of the list of pioneers and glorious adventurers who have enriched the world's confidence in itself, who have, in the popular phrase, "appealed to its imagination"—Columbus and Magellan and Raleigh and Drake; Boone and Whitman and Livingstone and Stanley; Peary and Amundsen and Scott and Stefansson and their predecessors and others whose names are legion. And there are the pioneers of science—Langley and the Wrights and the others who developed the heavier-than-air flying machine—perhaps even the stories of Icarus, Rasselas, and Darius Green may help us all to appreciate the romantic appeal that the adventure of flying has made to man.

The interest in Lindbergh will not be fresh when these pages

are being read, of course. But something will have happened during the previous week or month, or something will be anticipated which is being featured in the rotogravure section and in the news columns and cartoons of newspapers and magazines, pictured in the screen's news-reels, discussed or commented upon in homes, pulpits, clubs, street-cars, and elsewhere. Lurking in these events are always some aspects which merit appreciation. It may be adventure and progress of science as in the case already cited. It may be the social significance of a strike or of a disaster or of the opening of a new road. It may be the architectural excellence, the engineering problems, or the remarkable geographical and industrial division of labor connected with the construction of a new office building.

So of all current life. It demands evaluation and emotional reaction, if we are not just to receive it as "news" to be accepted. Life is about us. There are beautiful sunsets that men walking the fields at evening do not see. There is music that we do not hear. There are wonderful occasions which do not excite our wonder. This is not because we are inert or blasé, so much as it is because we have never found the joy of looking and listening and smelling and wondering and appreciating.

The man of culture is emotionally responsive to socially significant activities of all kinds—the lives of our immigrant fellow inhabitants, the hungry children of Russia, the crowding in subway trains, the milk supply of little children of the congested sections of the city, the efforts of the negroes to establish themselves as respected members of the community, the release of political prisoners. In books he seeks more than literary style; of the orchestra he wants more than brilliant execution of difficult pieces; of the artist he demands more than technical perfection; and at the play, stage-settings,

pulchritude, even clever acting fail to satisfy him entirely. Of all representations of life, he asks significant contributions to life-problems, either through the moods induced or through the presentation of differing points of view regarding social problems, labor, religion, customs, provinciality, and the like.

The Interests of Children Furnish the Most Fertile Fields for Cultivation. The child brings to the junior high school not only a rich array of interests, of questions that seek answers, but a soul from which wonder and spontaneous joy have not yet been stamped out by the affectations and sophistications of middle adolescence.

"Heaven lies about us in our infancy," said Wordsworth. Stars and sunsets, birds and beetles, melody and rhythm, color and design are enjoyed and "loved," partly because the impressions are new and natural, and partly because parents or nurses or some other companions for whom the children have felt affection, have imparted their enthusiasms consciously or unconsciously to their little companions. Mearns would apparently ascribe their appreciations and artistic interests chiefly to an inner drive. In writing of his experiment in guiding the creative activities of children, he says:

> . . . We knew that children do have natural artistic gifts: nearly all children draw, invent stories and jingles expressive of their rich, imagining lives, play the serious actor in vivid dramas of their own spontaneous construction; and they perform all these activities with an energetic absorption in the performance that makes our own adult exertions seem in comparison dull and lazy. We knew, too, that they do their best work at tasks that are self-initiated. We knew all about their untiring pitting of strength of mind and body in the solution of the problems of their own significant lives. These facts about them we knew and sought to use in the schoolroom.
>
> We also knew how abruptly all the quick spirit of their lives

is destroyed by ignoring their own conception of life values and substituting our own. We knew how easily they are stilled by authority; how submissively they surrender their own free spirits at the word of command from us. Of their obedience to our wishes we teachers had had ample evidence, yet we began our experiment with a distrust of our own powers to lead! Youth, we felt, had something to teach us, a dumb, inarticulate, worthy something; this we resolved, if possible, to discover.[1]

By encouragement and direction of interests already available we not only economize time and effort, but also we make success probable. Conversely, by compelling pupils to study subjects or aspects of subjects in which they are not interested and for which they see no use, or by setting up standards or methods which make no present appeal, we waste the time of every one concerned and make failure almost certain. Nevertheless, this is just what has been too frequently happening in the cases of music and art—two subjects for which appreciation is surely an expected outcome.[2]

As yet we have too few investigations of children's interests in various fields, and some of those that we have are open to grave questions as to inclusiveness of the questions asked. Curtis got from pupils of junior high school age 3,330 questions and statements indicating their interests. The prominence of such topics as the stars, electricity, the earth, radio, volcanoes, and earthquakes, indicates how large a part won-

[1] Mearns, Hughes: "Golden Lads and Girls," *Survey Graphic*, vol. 9, no. 3, June, 1926, p. 319.

[2] See tables by Brown and Minnick of Ranking of Subjects by Pupils of Horace Mann School, New York City; of Decatur, Ill.; Hackensack, N. J.; and Dubuque, Iowa. Educational Administration and Supervision, Oct. and Nov., 1915.

Book, W. F.: "The Intelligence of High School Seniors," Macmillan, 1922. Table giving the number of pupils selecting different high-school subjects as their favorite subject, p. 160.

These tables are reprinted in Uhl: "Secondary School Curricula," Silver, Burdett, 1927, pp. 385–392.

der plays in pupils' interests and how readily they lend themselves to the encouragement of emotional states which make appreciation probable.

In the field of literature, Abbott reported, a quarter-century ago, a study of children's likes and dislikes.[1] He found a prevailing love of adventure on the part of the boys and of sentiment on the part of girls. The pupils did not care for the attempt of one man to interpret the ideas of another, for literary criticism, or for experiments in the literary art.

Uhl found the most popular books in Wisconsin High Schools to include:[2]

"The Call of the Wild"	"Tarzan Series"
"The Girl of the Limberlost"	"Her Father's Daughter"
"Freckles"	"The Shepherd of the Hills"
"Tom Sawyer"	"Lone Star Ranger"
"Riders of the Purple Sage"	"White Fang"
"Main Street"	"Desert Gold"
"Little Women"	"The Sheik"
"Anne of Green Gables"	"The Little Shepherd of Kingdom Come"
"Pollyanna"	
"Huckleberry Finn"	"Daddy Long-Legs"
"Seventeen"	"Penrod"

Jordan has made extensive canvasses of the reading interests of pupils of early junior high school years of over 5,000 pupils.

. . . These pupils reported their first three choices of books and magazines. Although Zane Grey's works and the *American Magazine* overwhelm all rivals for popularity among both boys and girls, Jordan suggests that, to get a clear understanding of the sort of things that girls like during the high-

[1] Abbott, Allan: "Reading Tastes in High School Pupils," *School Review X*, Oct., 1902, pp. 585–600.

[2] Uhl, W. L.: "The Materials of Reading," pp. 148 ff. Silver, Burdett & Co., 1924.

school period, one should also read "The Girl of the Limberlost," "Little Women," "The Little Shepherd of Kingdom Come," and "Freckles." To discover the sort of things which interest boys, one should substitute the Tom Swift Series, "The Sea Hawk," and the Tarzan Series for the distinctively girlish books, still retaining, of course, Zane Grey's works. As shown by their reading, the chief satisfiers of boys and girls during their early high-school years are, Jordan concludes, those catalogued in Table XVI.

TABLE XVI

CHIEF SATISFIERS OF BOYS AND GIRLS, TEN TO THIRTEEN YEARS OF AGE

Satisfiers of Boys	*Satisfiers of Girls*
Physical strength and aptitude.	Kindliness.
Self-control, especially in crucial situations.	To wear beautifully tailored clothes.
Independence.	To hold a high social position.
Making a team at the expense of an unjust rival.	Being honorable.
Saving a person's life.	Unselfishness.
Mastery in physical combat when the opponent is despicable.	Being useful at home.
Loyalty.	Playing pranks at school.
Going somewhere.	Gaining esteem of worthwhile persons.
New experiences.	Being loved and admired for one's self.
Praise of one's fellows.	Protecting the weak.
Good sportsmanship.	Having things happen.
	Frankness.
	Getting a box from home, having a feast until late hours, and telling stories.
	Success in dramatics.
	Going to a city, if reared in the country.[1]

This list of satisfiers is peculiarly suggestive for teachers of appreciation whether in the field of literature or in such fields as music, art, and history.

If children do enjoy literature which is unwholesome, such as "The Sheik," and that which is wholesome, such as "Penrod," the teacher's opportunity and obvious function is not

[1] Uhl, Willis L.: "Secondary School Curricula," The Macmillan Co., 1927. Pp. 397-398 adapted from Jordan: "Children's Interest in Reading," University of North Carolina Press, 1926.

to present books like "Ivanhoe" and "Evangeline" that few or none like, but to stress such stories of the Penrod type as are available. Otherwise, the stories of "literature" class are completely divorced from the more authentic reading experiences of children in which their real appreciations find full expression.

The Dawn of Adolescence Is Peculiarly a Time for Appreciation Lessons. In the first place, most children have by this time attained control of the "tools of knowledge" and simple technics of art so that they are familiar with the words and materials used in these lessons. Second, the children have lived long enough to realize somewhat the place that appreciation of beauty, truth, and love holds in the world. Third, the youths are not yet under the fact-mastery pressure of the senior high school. And fourth, they are just approaching a great period of glandular, circulatory, nervous readjustment, when emotional states of wonder and elation and tender feelings are of the greatest significance.

These young folks want the approval of adults; they want to share adult sentiment, adult behaviors, and the other adult *mores*. As they grow tall and a bit awkward, as they become conscious of the new world which they are about to enter, they frequently are somewhat abashed, and they seek the friendship of sincere adults who believe in them. A new and wonderful life lies about them; they are not always articulate in asking questions about it. They want, nevertheless, to know what it is all about. It is a time of new evaluations.

If the school can only meet them on their own ground, the children are ready for remarkable spiritual attainments. If the school can only furnish to them as guides mature men and women who also are seeking for the comfort and solace and joy and freedom which nature and art and health can bring to us,

then will children at the threshold of maturity join eagerly and spontaneously in their efforts to share those experiences which are meaningful to their teachers and companions. Always, however, these guides must realize that appreciation is an active process, and that no two persons appreciate their environments in precisely the same way. It must always be a discovery and evaluation by the pupils. Superimposition of standards results surely in docility or disgust.

Music is not beautiful or inspiring to them unless they honestly enjoy singing and listening to it; art is not meaningful to them unless it challenges their wonder, their identification of self with the subject contemplated. Hence, standards of childish appreciation must be varied; sincerity is far more significant than arbitrary standards.

Our Aspirations for a Social Democracy Have Awaited the Progress of the Industrial Evolution for Fulfillment. Political freedom, economic independence, mechanical devices, and increased leisure time have brought social democracy within the range of possibilities.[1] So long as fur coats, pianos, automobiles, silk stockings, platinum rings with diamonds, and their counterparts, could be owned only by the few who were "rich," these evidences of "conspicuous waste" lent a glamour to their lives which excited both admiration and envy among those who were denied them. We have arrived at a time, however, when real or imitation luxuries are the property of a very large fraction of our population. In a few years it is quite probable that the display of luxuries will be generally recognized as vulgar, cheap, and tawdry.

[1] In 1780, John Adams wrote to his wife:

I must study politics and war, that my sons may have liberty to study mathematics and philosophy, geography, natural history, naval architecture, navigation and commerce, and agriculture, in order to give their children a right to study painting, poetry, music, architecture, statuary, tapestry, and porcelain. (Quoted by Doyle, H. C., *School and Society*, vol. 24, no. 672, Nov. 12, 1927.)

Though the stenographer and salesman and truck driver and their dependents seize upon this first visible symbol of rank—conspicuous waste—they also adopt gradually and to a degree the voices, manners, *savoir faire*, and customs of the *élite*. Magazines, the drama, novels, and newspapers permit the outsiders to share vicariously in the home and "social" lives of the "select." Sometimes, it is mere ostentatious display that is thus exploited and popularized, but, frequently, the active, productive, and extremely simple lives of our truly great men are pictured. Intelligent and discriminating readers are more vitally interested and more deeply stimulated by a knowledge of how Thomas A. Edison or Charles E. Hughes or Richard C. Cabot work and play than they are in how Otto Kahn or Felix Warburg or Mary Pickford or Jack Dempsey build palaces and select their limousines. Gradually, the less alert will come to use their leisure with greater appreciation for the truer values of life.

The program of education can re-enforce some and offset other aspects of American culture. By co-operating with selected aspects or examples of such influential agencies as newspapers, magazines, and books, with libraries, lyceums, and labor groups, with the drama and the "modernist" pulpit, the school may most effectively increase and give direction to the cultural life of the pupils.

First of all, attention of those teachers and preachers and actors and editors who are interested in a worthy democratic culture should be directed to the homely friendly fundamental virtues which antedate modern civilization. "Good breeding," kindliness, standards of honor, affectionate care of wife and children, and delicacy of feeling characterize the modern representatives of primitive man.

Stefansson after spending a year among Eskimos who had

never before been associated with a white man asserts that they are the equals of the best of our own race in good breeding, kindness, and the substantial virtues. They were men and women of the Stone Age truly, but they differed little from you or me or from the men and women who are our friends and relatives. The qualities which we call "Christian virtues" (and which Buddhists no doubt call "Buddhist virtues") they had in all their essentials. They are not at all what a theorist might have supposed the people of the Stone Age to be, but the people of the Stone Age probably were what these, their present-day representatives, are: men with standards of honor, men with friends and families, men in love with their wives, gentle to their children, and considerate of the feelings and welfare of others.[1]

In addition, the great mass of the population which has only the leisure-time traditions of the carnival and market-day, must be helped to gain for itself rich appreciations of such higher forms of activities as have, in the past, belonged only to the truly cultured men and women of leisure. Such were the Greeks who attained their leisure as economic parasites on the disenfranchised merchants and artisans. Such were the nobles of the old régimes of Europe who lived off the labor of their serfs and tenants. Such are the "Brahmins of Boston" living largely on the investments made generations ago.

At the present era in America, we seem to be on the threshold of increased leisure and economic independence for almost every one. But this potentially happy state has come upon us so quickly that we are often unprepared for it. The *mores* of our newly rich are disconcerting. They are often

[1] Stefansson, Vilhjalmur: "My Life with the Eskimos," pp. 199–200. Macmillan Co., 1927.
Cf. Spinden, Herbert J.: "Can Civilized Man Keep Savage Virtues?" *The Forum*, Sept., 1927, vol. 78, no. 3.

cheap, noisy, socially irresponsible; they too generally converse only about prize-fights, golf scores, musical comedies, and such like. They sometimes pursue "culture" eagerly, almost breathlessly, but they often mistake the veneer and ornaments for the substance.

The Schools Have Followed the Crowd Sluggishly. We of the schools have until to-day seen the stupidity of this process no more clearly than the poor "culture chasers" to whose children we teach "conversational French," "English classics," party manners, college entrance Latin and mathematics. These are the "equipment of the élite," or they are the magic formulæ by which one may gain admittance to the association with the select.

There are those who are interested in masterpieces, who seek beauty at the art museum, but who seldom are impressed with the setting sun, or the autumn foliage. There are those who attend symphony concerts, music score in hand, but who know little either of the actual music of the birds or the waves, or the brook, or the wind in the trees, or of the moods induced sometimes while snowshoeing across the fields on a clear cold night, or sitting alone looking across the water at the lights beyond, or looking in the room where one's children lie asleep. There are those who are impressed by interpretive dancing but who are never impressed by the natural expression and postures of children at play or those which accompany the affectionate care given by a mother to her child. Such persons, who are interested in the art, the technic of expression of emotions, seem always to be looking at life in a mirror like the Lady of Shallot.

There can be little doubt that gentleness of manner and good taste in dress and decoration are spreading and that the schools, through the examples of their finer teachers, are hav-

ing an important share in this process. But the conventional "cultural" curriculum is obviously of very little *positive* significance. The school is popularizing refinement of conduct and good taste in dress and to some extent an appreciation of the more desirable forms of art.

A New Spirit Is Evident in Progressive Schools. In the more flexible subjects of the curriculum—English expression, art, literature, music, clubs, assemblies, physical education, and the rest—a positive program is evolving which is the counterpart of the activities of many cultured groups in the communities. The progressive school is exploi ing such community interests as are represented by the drama leagues, community orchestras, the art guilds, nature and hiking clubs, some magazines and news columns. They are attempting to re-enforce the programs of these groups, to guide the pupils and their parents into contacts with some or all of these opportunities, and to direct them by suggestions, preparation, and approvals to the end that each may find some or many worthy interests calling for sincere evaluation and discrimination against a background of the genuine emotions such as give color and meaning to life.

Something Greek is coming back to education; for the beauty and the power of the Hellenes were always a result of self-cultivation in taste, never a slavery to information; they danced, sang, talked endlessly, tuned the body and mind to its best rhythms, and through these intangibles they probed the limits of human understanding; but they did not know that the earth was a globe, nor were they concerned that the chief city of Madagascar is Antananarivo.

The key-word, so far as the schools are concerned, is environment rather than lessons. Lessons do draw out the spirit of many, especially those of the scholarly type, but a skillfully set up environment, as the teachers in the progressive

schools are now well aware, will do general magic, will start a moving creative spirit in the least hopeful, will well-nigh "draw three souls out of one weaver!" [1]

This creative spirit is fundamental to all discrimination and sincere evaluation of acts, products, standards, and the like, in whatever fields of endeavor or interest higher and lower forms of activities are found.

Better æsthetic standards and better attitudes toward æsthetics is one important phase of higher activity but not by any means the only one. To think more logically and to think on more significant problems—social, scientific, political, or moral—than one would do in the ordinary course of affairs, is at least as important as æsthetic appreciation.

It was the opinion of the Curriculum Committee of the National Association of Secondary School Principals [2] that the following aspects of the core-curriculum should be organized in the junior high school with appreciation as the major aspect: general reading of magazines, fiction, drama, biography, science, travel, and inventions; and "play level" experiences in music, art, practical arts, and home-making. These activities would not be expected to result in formal skills, habits, or informations for all pupils. No drills or tests would be included if they tended to decrease the enthusiastic participation of the pupils in their projects.

It is obvious that such a program would be a relatively radical one, for the major criterion would be not what the pupil knew or could do, but how he felt, how he enjoyed the activity. Such appreciation-experiences whether in shop, the music room, or in the library would require that the literature, the

[1] Mearns, Hughes: "Creative Power," Doubleday Doran Company, 1929.

[2] "National Association of Secondary School Principals," *Sixth Yearbook*, 1922.

boat-building, or the painting consist of experiences to be joyfully participated in, not lessons to be "learned" and cited back to the teacher.

They would not be tasks imposed from without. They would be problems of current interest among cultured members of the community. The literature, the music, the art forms, and the clothing designs would very frequently be distinctly modern, but to the extent that the present cultural resources of the community are social heritages from the past, the contemplation of their history would increase the enthusiasm of many pupils. It would not be the purpose of these activities to reveal types of logical sequences or the characteristics of special epochs, although the interest and attitude toward Chippendale furniture or Brahms waltzes would probably be heightened by some knowledge of the times in which these forms appeared.

The enthusiasms promoted by such joyful contacts with nature, color and design, music, literature, and the arts would re-enforce the home-making activities to the end that both boys and girls would feel a keener pride and a more loyal spirit toward the homes they now have and, one may hope, toward the homes they may have in the future. They would heighten civic pride and aspirations for a city and a state that are beautiful and wholesome. They would very likely promote a desirable emotional tone toward one's vocational activities. They would certainly enrich the present and future leisure-time experiences of the pupils. And they would encourage a spirit of tolerance and good-will toward all men and toward dumb animals as well.

In short, the appreciation activities would be characterized by enthusiastic living in company with leaders who do live enthusiastically. Living is itself education. Formal teaching

is not so essential to education for appreciation as are active participation and active enjoyment in responding to the significant aspects of nature and literature and the arts.

As exemplifying the aims and activities of the purely cultural type, the undertakings of the Music Appreciation Club may be cited as representative. In order to open up to the children the field of music, the club carries on its work in a variety of ways, the chief of which are listed as follows:

Talks by the club sponsor on the evolution of music from ancient times to the present day, accompanied by excerpts from type compositions played on the Victrola.

Consideration of the varying tonal qualities of the voices of both men and women from the point of view of the solo voice, of duets, trios, quartets, and choruses. Pupils are made acquainted with the names of past and present "master singers."

A study of the orchestra as a medium of musical expression —the function of each individual instrument and the color contributed by each to the ensemble. The various choirs—string, wind, percussion, and brass—are studied, accenting the types of emotion voiced by each group. The tonal quality of all instruments is illustrated by solo passages, and students are made familiar with the peculiar timbre of each.

A study of national songs and dances as they evince national feeling. Reference is made to the psychologic, climatic, and historic background responsible for the characteristic rhythms and melody of each. Among the dances considered are the jig of Ireland, the hornpipe of England, the highland fling of Scotland, the tarantella of Italy, and the minuet of France.

Dances by the pupils are in the national costumes as a visual aid to musical memory. The characteristic instruments of each country are also noted—the castanets of Spain; the bagpipes of Scotland; and the dulcimers of Hungary.

Lessons in rhythm, melody, harmony, and simple musical forms are profusely illustrated on numerous instruments and by many compositions, like the funeral march and the military march. The characteristic rhythms of the waltz, polka,

mazurka, minuet, gavotte, bolero, etc., are all made familiar to the pupils.

Memorization contests in which the themes or opening bars of famous compositions are played for recognition and placement by the pupils.

Story hours in which the plots of the operas are told by certain club members and illustrated on various instruments by other club members.

Attendance at children's symphony concerts given by the Philadelphia orchestra.[1]

Summary. Appreciations can be gained only by experiencing with satisfying emotional glow or tone the sensations and evaluations called forth in each individual by some qualities or aspects of nature, art, music, and behavior. Appreciations cannot be superimposed; they cannot be objectively graded with any exactness for any individual. They may be stimulated and, to an extent, transmitted by those who have enthusiasms to those in whom such enthusiasms reside as undeveloped potentialities. Not every one is capable of every valuable and worthy enthusiasm which may be very meaningful to another.

Appreciations are informal, unconventional, uneven, unlike, and incidental to whole-souled participation in stimulating experiences. Such participation in a story, a song, a landscape, an heroic accomplishment, or an exquisite example of workmanship may be direct or it may be vicarious. But it must be pleasing and it must be intensive. Sincerity, reality, vividness, impressiveness, and emotional satisfyingness must characterize all appreciation experiences.

The teacher of appreciation should emphasize, therefore,

[1] Lyman, R. L.: "The Guidance Program of the Holmes Junior High School," *School Review*, vol. 32, no. 2, Feb., 1924. Reprinted in Lyman-Cox: "Junior High School Practices," pp. 136 ff.

those aspects of architecture and parks and music and pictures and literature and cabinet-making and all other phases of our natural and artificial environment in which he honestly finds real pleasure himself. He must be tolerant of differences in judgment, if honestly held, and he must be catholic enough in sympathy to encourage in others enthusiasms which mean little to him.

"Music memory" and other contests and lessons in composition, rhythm, color, motifs, and other elements of art and music may be of very great value in promoting appreciations for many children and should, therefore, find important places in the appreciations class. The teacher should, however, realize that how much the pupils know and do is never a goal. Knowledge and abilities are always means in the promotion of joyful adventures in seeing, listening, making, and living. The environment which is within easy reach of the boys and girls must, therefore, determine the general range of experiences which the school will exploit.

Literature. In literature, the appreciations teacher will stress such currently read stories and poems and biographies and accounts of travel, adventure, scientific development, and the like, as are in fact read by cultivated men and women of the community and which are available in libraries, in magazines, newspapers, and in many homes. Such publications as *Current Literature*,[1] *The Scholastic*,[2] and *The Golden Book*[3] may well be subscribed for by the school or by the pupils of all appreciation classes. The class-rooms should contain book-table and book-shelves on which pupils may find material selected because it is rich in such life-values as whole-

[1] Published by *Current Literature*, 1123 Broadway, N. Y. C.
[2] Published by The Scholastic Publishing Co., Wabash Building, Pittsburgh, Pa.
[3] Published by The Review of Reviews Corporation.

some numor, courage, love of dumb animals, of home, of nature and the out-of-doors, contentment, inspiration of great lives, loyalty and devotion, and faith and hope, to which pupils' imagination and emotional natures may respond.[1]

Such material will generally be chosen, however, as is familiar to cultivated men and women who live in the community. Pupils will be encouraged to read such stories, poems, accounts, and discussions by promoting activities by which they may absorb these life-values into their own lives and broaden their outlook on life. Among such activities will be debates, scenarios, special programs, individual and group reports, and discussions of life-values and social ideals.

If the school is to foster desirable attitudes toward literature in children then it is of the utmost importance that the atmosphere of the school library be conducive to browsing among books and magazines. It is equally important that the school library be in charge of a librarian who has a deep understanding of the versatility of children's tastes in literature, and has herself a wide knowledge of books and a great love of them.

Nor would the school be content with merely encouraging such reading in school and out. It would endeavor, in addition, to bring about direct contacts between the pupils and the public libraries and other institutions which maintain reading rooms. These contacts are frequently stimulated by arranging for groups to visit libraries with their teacher. On the occasion of such visits the librarian should extend a hearty welcome to the children and perhaps help them to select the first books which they borrow.

[1] Cf. "Reorganization of English in the Secondary School," U. S. Bureau of Education, Bulletin, 1917, no. 2.
"National Committee on Reading N. S. S. E.," *Twenty-fourth Yearbook*, part I, 1925.

In such ways will literature promote to the fullest extent the worthy uses of leisure time and the accompanying growths in character and good citizenship. It will help children to do better the desirable activities that they are probably going to do anyway, and it will promote for them higher types of activity and make them desirable.

Art and Music. In art and music the same principle holds as in literature. The teacher starts with such songs, dances, pictures, buildings, and parks as pupils will most probably respond to with joy and which cultivated adults in the community do actually appreciate. First the satisfying emotional states are aroused and re-enforced by selected community expressions of appreciation. In the school appreciation class will be enjoyed the more worthwhile selections which characterize the current contributions of radios, orchestras, bands, college glee clubs, graphophones, and home pianos to the musical experiences of the people. There will be found, too, pictures and designs similar to those which the rotogravures, moving pictures, public library, and department stores make available. From these will pupils go forth to the public squares, the museums, the parks, the woods, and the lake, to know and feel the majesty and beauty of the architecture, the statuary, the tapestries, the landscapes, and the world of appreciation which the sensitive person may enjoy.

Whatever is cheap and tawdry and degrading in the pupil's environment is neglected; whatever is worthy is given prominent place. The school does more, however; it brings to the attention of the children and through them to the home, better art forms than the community now supports. But it does not start with them, nor does it attempt to superimpose them at any time. Only as pupils and parents are helped to appreciate these elements which represent their own present highest

achievement, may they be led honestly to appraise forms of art with which they may at present be unacquainted.

Correlation with Other Aspects of the Curriculum Is Essential. With the other divisions of the curriculum, the appreciations teacher will, of course, keep in close correlation. If the health teacher is promoting rhythmics, if the civics teacher is promoting the care of parks,[1] if the science class is studying the landscape or the shrubbery of the school grounds, the appreciation class directs its attention to the same activities and objects. Particularly will the appreciation teacher capitalize the activities of clubs, broadening and finding courses, and electives in expressional subjects; members of these groups will be encouraged to contribute actively in the appreciation classes by means of illustrated talks, or demonstrations. Social approval and social satisfaction are fundamental to individual self-expression in appreciations as in all other aspects of life.

[1] Cf. "The Junior High Schools of Rochester, N. Y., 1923." Excerpts reprinted in Lyman-Cox: "Junior High School Practices," pp. 150–171.

CHAPTER VIII

INTRODUCTORY SCIENCE AND MATHEMATICS

Science consists of the readiness and ability to reflect and to draw conclusions or make decisions in the light of dispassionate reasoning. It lies at the opposite extreme of mental activity from mere impulsive or habitual behavior. Science does not consist of subject-matter set forth to be learned; it is characterized by distinctive interests, alertness, attitudes, and procedures.

This chapter does not deal with any set content—conventional or otherwise—that may be called "science" or "mathematics." It aims rather to point out a feasible program for arousing pupils' enthusiasms in the world about them and in stimulating their eagerness to wonder about that world, to think about it, to understand it, and to be reconciled to their own judgments concerning it.[1]

Science is not monopolized by "scientists." Every housekeeper, who in making a cake decides how much baking-pow-

[1] "So, the vast results obtained by Science are won by no mystical faculties, by no mental processes, other than those which are practiced by every one of us, in the humblest and meanest affairs of life. A detective policeman discovers a burglar by the marks made by his shoe, by a mental process identical with that by which Cuvier restored the extinct animals of Montmartre from fragments of their bones. Nor does that process of induction and deduction by which a lady, finding a stain of a peculiar kind upon her dress, concludes that somebody has upset the inkstand thereon, differ in any way, in kind, from that by which Adams and Leverrier discovered a new planet.

"The man of science, in fact, simply uses with scrupulous exactness the methods which we all, habitually and at every moment, use carelessly; and the man of business must as much avail himself of the scientific method—must be as truly a man of science—as the veriest bookworm of us all; though I have no doubt that the man of business will find himself out to be a philosopher with as much surprise as M. Jourdain exhibited when he discovered that he had been all his life talking prose."—Huxley, "The Educational Value of the Natural History Sciences."

der and liquid she should use to replace eggs, may reason scientifically. Every motorist whose engine fails him far from a repair shop may adopt a scientific procedure as he seeks to find the cause of the disorder and to make the necessary adjustment so that he can get home. Every baseball pitcher or catcher or coach who sizes up the batter, the base-runners, the state of the inning and the game, the morale of both teams, considers the chances that should be taken, and decides on a course of action, may use the method of science. Every consumer who decides how much money should be spent and for what, taking into account his resources, the other demands on his purse, the possibilities of investments or savings, may think reflectively and, hence, scientifically.

Science is thus seen to be an intellectual instrument which every competent person uses daily. It is truly an everyday science that the school should promote. Such a science is not at all limited to laboratory biology, physics, chemistry, and geography.

On scientific procedure depend all intelligent adjustments as distinguished from those which are purely accidental, impulsive, habitual, or controlled by "rule of thumb." Such adjustments every one is called upon to make in connection with his home, his neighborhood, his religion, his vocation, his civic duties, and his leisure. In making such decisions, he is frequently in need of some knowledge of health control, of mechanics, of chemistry, of plant and animal life, of budgeting, of arithmetical processes, of taxation, insurance, investments, loans and banking, of land and house values, and of human behavior. Practice in being scientific in interests, attitudes and procedures in connection with such situations as the pupils and their adult associates now meet should be promoted by the school.

Such scientific behaviors will be encouraged in all divisions of the curriculum. In the home-rooms, clubs, and student government, in the social sciences, in health education, in language classes, in home arts, industrial arts, and commercial arts, and even in appreciation, pupils' success will be conditioned largely by their scientific attitudes and procedures. In these activities, nevertheless, the science objective is properly subordinated to the primary goals implicit in the respective "subjects."

In Science and Mathematics Scientific Behavior Is a Primary Objective. Only in science and related mathematics do the readiness and alertness to assume a critical attitude, to investigate, to weigh and consider, to suspend judgments, to form tentative hypotheses and to test them, and to keep an open mind become the major and primary goals. Here will pupils deal with aspects of their environments, potentially common both to their school and to their extra-school lives, which are most likely to stimulate in them a willingness to think reflectively and self-critically. Such curriculum situations will develop in connection with their athletics, their school politics, their intellectual play, their scouting, their vacations, their homes, their budgets, and their desires for civic improvements.

From the point of view of the conventional scientist and mathematician such science will, of course, be rudimentary. No one should expect, however, that all children of thirteen to fifteen years of age will become "scientists" as a result of a few hundred hours of class instruction. Elective courses in natural science and in mathematics should give opportunities for many gifted pupils to discover their talents and to follow their special interests. For the great majority of pupils, however, the abstractions and generalizations and the highly systematized knowledges of specialized science and mathematics are not

suited. It must always be remembered that two-thirds of these children have less than 1.10 I. Q. Since the I. Q. is a measure of children's native capacity to think in terms of verbal and mathematical abstractions, it is evident that most children are not potential "scientists" or mathematicians.

Yet, in a modest way all can think scientifically and numerically and life calls on them so to do. In the science and mathematics phases of its core-curriculum, the school will give major emphasis to a wide range and generous quantity of such thinking-experiences. The more abstract and theoretical thinking and the emphasis on "science" information will be reserved for elective science.

Such a general course demands a co-ordination of science experiences typical of social life. From the activities which are met by children and adults in their home, leisure, and vocational lives this general course selects those which embody the needs of quantitative thinking. Desirable attitudes and behaviors may thus be best promoted in situations typical of social life.

Up to the present, junior high school mathematics has been generally more effective than general science in co-ordinating the various aspects of science and in promoting the practice of scientific thinking in relation to them. The traditional recognition given to arithmetic and algebra in grades 7, 8, and 9 has given to mathematics a commanding position in the junior high schools of which its sponsors have taken creditable advantage. Topics in progressive general mathematics syllabi and text-books are drawn from the fields of physics, biology, commerce, industry, and other phases of social life which call for relatively exact computations, estimates, representations, locations, and functional interdependencies. Hence, up to the present, junior high school teachers of mathematics are more

frequently encouraged to promote intellectual behavior than are general science teachers.

Prescribed Mathematics Should Be the Instrument of Scientific Experiences. Unfortunately, however, the use of the term mathematics is always confusing to teachers, because its traditional and almost inescapable goals have been a knowledge of mathematics, a facility in mathematical processes, and a logical organization of subject-matter. These objectives are not themselves of great importance to the majority of children or adults. Their needs are met by a command of only the simplest mathematical procedures.

It is necessary, however, that these procedures be learned and used in connection with those significant scientific problems to which the mass of children and adults can be encouraged to give their attention. Hence, the mathematics taught in the core-curriculum should be found in a matrix of scientific experiences which can arouse the interests of all children and adults. Mathematics will thus become an instrument of scientific method and attitude; by it children will be enabled to count, measure, compute, and represent quantities and thus to give expression to their objective and relatively exact thinking. Mathematics as a distinct subject, apart from its use as an instrument of scientific thinking and as a tool for practical adjustments, has no justifiable place in the core-curriculum.

Closer Co-ordination Among Subject Fields Is Imperative. Much confusion may be avoided if science and mathematics are considered in conjunction with each other. It may be desirable to expand the course in mathematics so as to include those aspects of the "sciences" which lend themselves to simple measurement, computation, and graphic treatment, or which serve to illustrate quantitative functional relationships.

Some of the recent texts in junior high school mathematics do this very thing.[1] At Montclair, New Jersey, it is proposed to organize mathematics and science in the seventh and eighth grades of the junior high school under the head of "mathematics."

It may be even more feasible to relegate "formal computation" to the hospital classes for those who are deficient, and to offer elective courses in "pure and applied mathematics." Under the term "general science," there might then be included those very significant phases of social and individual experience which are best understood and appreciated when treated as sciences both for purposes of investigation and treatment of data, and also for purposes of computation and expression.[2]

In some cases it may not be feasible to make a composite course in science utilizing subject-matter closely associated not only with the natural sciences, but also with social study and mathematics. But even in such cases it surely is desirable that committees representing the teachers in these fields confer and apportion their responsibilities for such topics as physical and mathematical geography, sanitation and health, life insurance, taxation, climate and rainfall, building and loan associations, installment buying, mechanical inventions, and

[1] Cf. Barber, Harry C.: "Teaching Junior High School Mathematics." Houghton Mifflin Co., 1927.
Bonser, F. G., Smith, J. H., and Pickell, F. G.: "Junior High School Mathematics." Mentzner and Bush.
Drushel, A., and Withers, J. W.: "Junior High School Mathematics." Lyons and Carnahan.
Schorling, R., and Clark, J. R.: "Modern Mathematics." World Book Co.
Stone, John: "Junior High School Mathematics." Benjamin Sanborn Co.
Thorndike, E. L.: "Junior High School Mathematics." Rand, McNally Co.

[2] In the Detroit elementary and intermediate schools instruction in mathematics, commercial arithmetic, and science is given a single time allotment under the term "Exact Science." The work throughout the city is carried on under the supervision of a Director of Exact Science.

the like—phases of which find legitimate places in these three fields, and in other fields as well.

Whether the responsibility of the junior high school for the encouragement of and the educational practices in scientific attitudes, procedures, informations, skills, and appreciations is centred in one "subject-field," either mathematics or science, or whether this responsibility is divided between two or more fields, there can be no question of the importance of such traits in this day and age. There are very grave doubts in the minds of many educators regarding the efficacy of the present practices in dividing the responsibility for these traits among the several fields. Science must be learned in relation to the socially significant problems that it would solve; the socialization of science must be a dominant note in the teaching of every subject that utilizes any scientific technic.

The progress made by scientists in the last two hundred years has been astounding; the benefits accruing to the race have been very great. The mass of the people, however, has not advanced intellectually in line with the progress of science. Nor does the present departmentalization of science and mathematics improve the situation. Conceived as abstract tools to be learned for their own sakes, they are unlikely to increase very greatly the application of scientific attitudes and knowledges to the problems of politics and home-keeping and vocation and leisure.

In the Field of General Science There Has Been Obvious Retrogression. The conventional "scientists" and the "scientific measurement experts" have exerted their baleful influence to such an extent that word-memorizing, diagram-labelling, and classifications are too frequently the rewarded outcomes. The number of primary feathers in the blue jay's wing, the kinds of clouds, the law of the lever, the names of the viscera,

Ohm's law, and mutation are not of much social significance merely as words. They are examinable "facts," however, and they satisfy the "scientist's" demands for "knowledge" outcomes. Consequently, they have too frequently replaced the spontaneity and interest and appreciations characteristic of the old elementary school nature study before it was formalized in response to the demands for systematic knowledge.

How far this superficial philosophy and false emphasis have carried the accepted sponsors of general science is indicated by the report of the Science Committee, printed in the Fifth Yearbook of the Department of Superintendence of the National Education Association in 1927 (Chapter IX). This committee recommends the teaching of a knowledge of principles and laws and drill in applying them in life-situations to the end that the pupils may acquire an "apperceptive mass insuring comprehension of such science courses as may be taken later in the senior high school." Plants and animals in the seventh grade, health in the eighth grade, physics and chemistry in the ninth grade—this is the academic division recommended. Verbal laws and verbal principles of social worth, practice in applying them, and formal subject-division by grades! Words to memorize, words to show relationships between principles and application to practice, and words to be examined upon! All this may be "adequately" taught—and *yet there may be no functioning of scientific attitudes, experimentation, or explanation of life.*

The child of junior high school age lives in a world of things, forces, phenomena, and people. He does not live in a plant and animal world in his seventh year, in a health world his eighth year, and in a physical science world his ninth year! Every year and every day and almost every hour he is in the midst of mechanical appliances. For their operation, maintenance, ad-

justment and repair, and to protect himself from their dangers, he needs information and experience. Some of this information he already has or can get from experience, questioning, or reading. Other information and especially his behavior-adjustments must come from manipulating, discovering, and generalizing. One could read about driving a Ford or repairing a vacuum cleaner from now till doomsday, but he would never "know how" until he experimented and successfully experienced the operations.

The child, unless he live in a very congested district, is frequently in contact with trees and shrubbery, with lawns and gardens, with birds and stars, with parks and animals. He may give little attention to some or most of these elements in his environment. He will find them of interest, however, if the school or the Scouts or the home makes his acquaintance with them satisfying. These are the data of everyday life, and science should take the lead in making children conscious of them. It must give to the children encouragement and instruction in gathering and organizing and generalizing these experiences.

In his home, the child may face with his parents problems of equipment, water-supply, electricity, cleaning, heating, taxation, insurance, merchandising, budgeting, renting, buying on installments, building and loan or savings bank mortgages, paying for up-keep, investing in land or stock or luxuries. Actual consideration of these problems by children or by parents is too frequently conspicuously absent. If the problems are there, however, if home membership would be improved by the appreciation and understanding of them by the children, and if scientific knowledge and attitudes toward them are what are most needed, then the science classes should find in these traits both objectives and practices.

Harap asserts that the centre of scientific interest is the home:

. . . Radiating in all directions are the topics of study which originate in the home. From the basement there emanate the scientific problems of the laundry, furnace, and meter. The kitchen is related to problems of food, cleaning, water supply, and refrigerator. The dining-room raises the problem of energy value of foods. The bathroom branches out into problems of the plumbing system and medicine closet. The bedroom leads to a consideration of mirrors, clothing, and linens. The ventilation system relates to humidity and carbon dioxide. Windows point to problems of natural and artificial lighting, materials of lighting, optical instruments and care of the eyes. The living-room is associated with decorations, musical instruments, telephone, and phonograph.[1]

In the pupil's home and neighborhood and gang and school are many examples of good or bad or neutral sanitary conditions and health practices. To stimulate children into consciousness of them, into a realization of their significance, and into a study of them and a formulation of plans and methods for improving them—this is the responsibility of the science and mathematics classes.

As a part of the homes and neighborhoods, there are many opportunities for "unspecialized practical activities of premises and gardens," as Bobbitt terms them. To a considerable extent these belong to the field of practical arts instruction rather than to that of science. Nevertheless, there are many problems of leaky faucets, defective electric door bells, vacuum cleaners and electric irons, wet cellars, ineffective heating plants, soil texture and composition, and weed destruction which properly belong in the fields of science and mathematics.

[1] Harap, Henry: "Mathematics for the Consumer," *Educational Review*, October, 1927, p. 162 ff.

Children frequently spend week-ends, holidays, or vacations under environmental conditions more or less unlike those of their homes. In these vacation periods are a degree of leisure and a break in routine that promote attention to new and unusual or hitherto unnoticed elements of the environment. Photography, collecting and systematizing, observing and reporting on some aspects or incidents may be peculiarly motivated by the opportunities to exhibit and explain their findings to the class on return to school. Short excursions and trips and reports on exhibits in museums or in private collections frequently stimulate the children to engage in such pursuits themselves.[1]

As members of Scouts, Camp Fire Girls, Y. M. C. A., and similar organizations, many pupils have vital experiences that are peculiarly scientific if teachers are alert to capitalize them. Specifically, the "merit badges" of the Boy Scouts and Girl Scouts offer opportunities for mutual re-enforcement between the science and mathematics classes and these auxiliary organizations.

At Blewett Junior High School, one or more of the teachers were officially designated in 1919–20 by the Boy Scout Council to give the science tests (and other tests) for second class, first class, and merit badges. These tests include agriculture, angling, astronomy, automobiling, aviation, bee-keeping, bird-study, botany, chemistry, conservation, dairying, electricity, firemanship, first-aid, forestry, gardening, insect-life, life-saving, machinery, mining, pathfinding, personal health, photography, plumbing, poultry-keeping, public health, radio, safety first, seamanship, stalking, surveying, taxidermy, textiles, and

[1] Cf. Finley, Charles W., and Tippett, James S.: "Field Work." Published by The Lincoln School of Teachers College.
Briggs, Thomas H.: "The Excursion as a Means of Education," *Teachers College Record*, November, 1921.

other interests more or less directly connected with science or mathematics. The Girl Scouts and the Camp Fire Girls offer similar opportunities for co-operation and mutual support.

Boys and girls and men and women are concerned with many other municipal and community problems. The telephone service, the street railways, subways, and motor buses, the water-supply system, street lighting, the location and construction of schools and other municipal buildings, the milk supply, the routing of traffic, the construction of streets, the improvement of parks, river fronts, and public squares, the adequacy and costs of food, ice, and coal, and many other similar topics are discussed from the platform, in the newspapers, and by labor unions and other organizations. Such problems determine the elections of city officials, and require the formulation of community policies and attitudes. Science and mathematics in the junior high school have the opportunity to capitalize these community interests, to help boys and girls face these problems and with a scientific attitude.

Boys and girls are reading stories and travelogues and nature-books. These vicarious experiences greatly extend their personal environments. Stimulation of such reading and recognition for it give science and mathematics teachers opportunity to direct the attention of the individual and the class to aspects of the stories and descriptions that might otherwise be overlooked.

The school itself is constructed, organized, and administered in a more or less scientific manner. There are innumerable questions involved in its control that have significant scientific implications in regard to the building, its foundations, its supporting walls, the location, construction, adequacy, and control of its heating plant, the water supply, the maintenance of water-pressure in the upper stories, the fire protection,

the electric switchboard and the insulation of wires, the cost of heating and of janitor service, the flexibility of use, provisions for extension of its units, provisions for play-space, lunchroom, auditorium, and the cost of building per unit—per pupil, per cubic foot, and per dollar of assessed valuation of the community.

Objectives of Science Are to Be Found in the Interests and Problems of Life. In the inescapable problems of community life in which youths and adults share both as consumers and controllers of policy (if not always as active participants in the specific solutions of them), the objectives and contents and methods of teaching prescribed science and mathematics are to be found. Science and mathematics, as core-curriculum subjects, must be justified on the basis of usefulness to all of the pupils and through them to the total community in which they are increasingly to have a determining voice. The desire to know, to think, and to do, and the ability to satisfy these desires must be developed through activities involving precise practice in seeking, finding, grouping, and controlling the concrete experiences and facts involved, and the scientific procedure in arriving at judgments about them.

This does not require elaborate technics; it requires the encouragement and reward of scientific behavior and interests, of initiative and self-reliance and open-mindedness and suspended judgments. Much of what we call skill in laboratory manipulation is useless, except for the very few who pursue advanced courses in college or university or technical school; much of this skill is acquired in situations and with materials that are foreign to the situations and materials which junior high school pupils meet out of school.

Pupils already have actual or potential interests in many, perhaps most, of the problems and topics described on the

preceding pages. The question of organizing the instruction so as to utilize and to redirect these interests and yet to lay out a reasonably systematic course is more difficult. For, if seventh and eighth and ninth grade teachers all utilize such problems, there may be lacking any progressive stages of instruction, and mere repetition and duplication may replace systematic treatment. The need for precautions to avoid such a danger is apparent. The difficulties involved must not, however, prevent the school from capitalizing the children's present interests in planning their school procedures. For children's interests always condition their learnings.

In What Aspects of Science Are Children Interested? Fortunately, Dr. F. D. Curtis has recently made available a study of pupils' and of adults' interests in phenomena comprehended by the term "general science." [1] The range of these interests and the similarity between those of youths and those of adults are striking. It is noteworthy that boys and men are more interested in technical processes than are girls and women, but one may doubt if so great a difference would appear if a similar study should be made in the next decade.

A Course May Be Planned to Deal with Actual and Desirable Interests of Children. If we begin with such interests as children now have in the seventh grade, we must cover a very wide range of topics. These cannot be differentiated systematically from those of the eighth or ninth grades. We can, however, change the class technic, encouraging pupils to study much more thoroughly a more restricted set of topics in the advanced grades.

[1] Cf. Curtis, Francis D.: "A Digest of Investigations of the Teaching of Science in the Elementary and Secondary Schools. Blakiston's Son & Co., 1926.
Pollack, C. A.: "Children's Interests as a Basis of What to Teach in General Science," *Ohio State University Education Research Bulletin*, January 9, 1924, vol. III, no. 1, pp. 3–6.

The description of the work carried on at Blewett Junior High School, in 1919, illustrates this general plan. The course is obviously over-weighted with biological topics, though the seasonal character of the courses makes this over-emphasis more apparent than real. For example, the characteristics of trees and the migration of birds must be studied at certain seasons, whereas thermos bottles and fire prevention can be studied at one season as well as another, though the occurrence of a "picnic season" or of Fire Prevention Day would no doubt affect the time of year when such topics would be discussed in class.

Blewett Junior High School Science. In the seventh grade at Blewett the attempt was made to assure to all pupils glimpses of the interesting fields which science explores. No text-book was used, but copies of many texts, pamphlets, reference books, and charts were available both in the classroom and in the library.

September:

1. Landscape appreciation.
2. Tree study; identifying the common trees; mapping school grounds.
3. Bird study; permanent residents near school; migrating birds.
4. General observation visit to the zoo.
5. The best food for children, milk.
6. Insect study; grasshopper and sphinx.

November:

1. Landscape appreciation; a November landscape.
2. Tree study; winter aspect of common trees.
3. Bird study; protective coloration; winter care of birds.
4. Visit to the zoo; planned carefully for study of one animal.
5. Bulbs; why planted in fall; why they bloom so early.
6. Animal study; gold fish and squirrel.

February:

1. Landscape appreciation; a winter landscape.
2. Tree study; report on trees in home block; survey trees of a district.
3. Bird study; watching return of early spring birds.
4. Visit to the bird cage in the zoo; planned lesson for observation.
5. Bag worm.
6. House fly; studied with microscope.
7. Tree products; lumber and lumber industry.

April:

1. Landscape appreciation; April landscape; identification of common plants.
2. Tree study; complete survey of district; structure; enemies; etc.
3. Bird study; bird homes; temporary residents.
4. School and home gardens; soil testing; seeding; germination; etc.
5. Animal study; earth worms; moths; butterflies; bumble bee; etc.
6. Food; when to eat fats, sweets, meats.
7. How to eat; digestive organs; teeth.

Topics for appropriate seasons; suggestive of phases developed:

1. The work rivers can do.
2. Springs; underground water; caves.
3. Volcanoes; geysers.
4. Influence of climate on food supply.
5. Balloons; weight of air; pressure; siphon; air pump; hydrogen gas.
6. Fire prevention; cause of fires; how controlled; oxygen and carbon dioxide.
7. The wind.
8. The dew; condensation; dew point; rain.
9. Granitoid wells; spaces; expansion of solids; liquids; gases; artificial ice; thermometer.
10. The compass.
11. Lightning rod.

12. Ice cream freezer and thermos bottle.
13. Properties of oxygen; carbon dioxide, hydrogen.
14. Mosquito; how it sings; travels; echoes.[1]

In the eighth grade, the pupils who elected practical arts and those who elected home-making were segregated into sections taught by practical arts and home economics teachers. In these courses, subject-matter was selected and supplemented, and method was modified so as to give the science instruction a curriculum-setting. In the eighth grade practical arts science class, woods, forestry, conservation of resources, mechanics, electricity, chemistry of metals, stains, rusting, alloys, and similar topics which could be directly connected with their shop experiences were stressed. In the eighth grade household arts science course, the chemistry of cooking was emphasized together with bacteriology, food products, refrigeration, and such other topics as furnished intellectual and appreciational background for their practical work.

Nevertheless, these special courses included much of a general nature which was similar to the general science of the academic and commercial pupils, and which was a direct outgrowth of the seventh grade course which has been outlined above. This made it possible for all pupils who later took ninth grade general science to build on similar general backgrounds of knowledges and skills.

As has been suggested before in this chapter, it is not alone the content of the science and mathematics courses that needs modification. Even more unsatisfactory are the conventional methods. Pupils must so act in science class and in the work related to it, that scientific appreciations, attitudes, and pro-

[1] Lyman, R. L.: "The Ben Blewett Junior High School, St. Louis, Mo.;" *School Review*, vol. 28, nos. 1 and 2, Jan, and Feb., 1920. Reprinted in Lyman-Cox: "Junior High School Practices." Laidlaw Brothers, 1925. Pp. 83–85 ff.

cedures will be successfully and pleasantly practiced. It is only in this way that scientific information and scientific skill will be associated with scientific attitudes and scientific appreciations. Hence, it is only in this way that there will be any transfer of class outcome to the out-of-class lives of the pupils.

In seeking a statement regarding good classroom methods in general science and general mathematics, two purposes must be borne in mind: (1) attitudes, procedure, and appreciations are the outcomes sought; and (2) the behavior responses and thought processes in connection with class problems must duplicate, as precisely as possible, those which it is desired to encourage in the out-of-class lives of boys and girls and men and women.

It is necessary, therefore, for situations to be so manipulated that some pupils will be baffled temporarily before they can proceed. Such situations may actually arise from the class's need to light a stage for dramatics, or to increase the water pressure in order to run a water-motor. But real situations are not easily developed with sufficient frequency to assure for all pupils the necessary practice. Consequently, the teacher has recourse to imaginary situations in which he can exploit the play motive—the puzzle and the manipulation of materials.

Suppose the instructor sets up on the demonstration table an electric light circuit with "two-way switches." He explains it, answers pupils' questions, and asks some leading questions himself. He then invites illustrations of similar systems in the pupils' own homes or elsewhere. Let him then tell the class that he would like to have in the supply-room a light which could be turned off and on from several points—involving somewhat more complicated arrangements than that shown on the demonstration table. Each pupil is asked to sketch out a possible plan with the assurance that if it seems at all feasi-

ble he will be permitted to construct an actual model. References are also supplied to books or articles that would be helpful. For such a project, pupils may be encouraged to work singly or in pairs, but they should be challenged to find the best plan—that involving least expense, least labor, and least likelihood of getting out of order.

It may be expected that such a project would have created a felt need and would have helped the pupils to sense their problems. They would then seek possible solutions and consider them. Finally, they would complete their sketches and submit them to the instructor for his criticism. After his approval the pupil would proceed to make his model. Such approval should, however, be based not so much on the assurance that the plan would be successful, as on his belief that the educative value of trying it out at the stage of solution reached justifies the step. The pupil would probably wish to modify his sketch as new difficulties arose, and so he would plan and test and modify until a degree of success was attained. Such a project would give actual practice in problem-solving by means of scientific thinking. It becomes the instructor's responsibility to see that as an outcome of this experiment pupils understand the meaning of a complete circuit, the way electricity flows, how circuits are broken and made, the nature of short circuits, the best conductors of electricity, and other generalizations about electricity and its flow. The adequacy of the thinking is found in the pragmatic test—the solution, if successful, functions; if fully successful, it functions with entire satisfaction.

Mathematics Furnishes Systematic and Frequent Practice in Reflective Thinking. Problem-solving in mathematics may be made concrete to the degree that diagrams or graphs may illustrate the reality of what equations or words or mathemat-

ical symbols indicate. Such problem-solving in mathematics permits more frequent practice in scientific thinking than could be furnished and controlled if the teacher were to depend on laboratory situations entirely.

A High Degree of Skill in Manipulating Numerical Processes Is Unnecessary. Such a degree of skill as is actually needed for the solution of reasonable problems may be assumed for pupils who have already completed six grades of elementary school. As a matter of fact, pupils have generally been over-drilled on abstract number combinations and processes during their elementary school courses. This is shown by the rapid deterioration of these abilities as soon as the artificial drill is discontinued. For the pupils who have not developed and retained even a reasonable facility in the fundamental operations, provisions should be made in hospital classes (Chapter X). It is surely wasteful for pupils who already have sufficient control of the processes to spend much time on abstract number drill just to assure to the "lame ducks" the special practice that the latter may need.

For the general run of pupils, the incidental practice involved in problem-solving can be supplemented by corrective or re-enforcement drills, the need of which pupils will themselves feel. Thus, if problems arise which involve "square root" and if pupils have forgotten or have not yet learned to find the square root of a number, they will themselves be eager to master the process. A little direct instruction, supplemented by varying amounts of practice and checked by a uniform test, can be given without retarding the general sequence of problem work which is organized in terms of the science project rather than in terms of the abstract process.

Type Projects Explained. Space will permit of two type projects involving (1) encouragement of scientific interests and

attitudes; (2) experiences in scientific quantitative thinking; (3) practice in supplementary mathematical problem-solving; and (4) manipulation of mathematical symbols and processes.

The Phases of the Moon.

Children are interested in the moon. It is conspicuous; it varies in size and shape; it is referred to in story, song, proverb, and fable; and many adults, who retain a childlike joy and wonder and, perhaps, a little good-natured superstition, are glad to share the child's delight and curiosity regarding the moon. The moon is obviously different from the sun, from the stars, and from the earth. And these differences furnish a cue for the problem-approach.

The project may well be introduced shortly after the moon is new, when a cirrus moon is observable just after sunset as the day changes to night. Happily an evening star may be visible at the same time. The children can observe the moon for several successive evenings. If convenient, the teacher may meet a group of them on an autumn evening and may stimulate their curiosity and wonder in the glorious sunset, the appearance of the brighter stars, the increasing brightness of the young moon, and the perceptive outline of the "dark moon" illumined by light reflected from the atmosphere of the earth. Many of the children will doubtless know such obvious constellations as the Big Dipper, the Little Dipper, Cassiopeia's Chair, Orion, and Corona. Some may know the planets that happen to be visible, Venus, Mars, Jupiter, and Saturn. The changes in relative position of the moon and the evening star at a given hour night after night are obvious, the position of the moon in relation to the fixed stars is apparent when once the children's attentions are directed to it. The apparent motion of the planets is not so easily observed by the children; the teacher may well inform them that a month earlier the

evening star was not visible after sunset and that in a few months it will no longer be an evening star.

All of this is interesting to most children and the mystery is deepened when it is discovered that the almanac published prior to the preceding January actually foretold the time of sunset, the phase of the moon, and the positions of the planets on this autumn night.

The children already know from experience that the moon will wax and wane—if not, continued observation will permit them to verify the statements made by their classmates and by the books which they may read. The classroom should be supplied with simple books of reference, such as Thompson's "Outline of Science" (Putnam's Sons, 1922), "The Book of Popular Science" (Grolier Society, 1924), "The Book of Knowledge" (Grolier Society, 1911, 1912), Compton's Encyclopedia (F. E. Compton), and with general science texts which deal with the earth's neighbors.

The pupils may be led to ask or wonder whether the earth-shine on the moon is as bright as the moon-shine on the earth —if so, a committee of those interested might undertake to formulate an opinion and to demonstrate in a few days a diagrammatic justification for such a belief or theory. This problem involves quantitative thinking similar to that of intuitive geometry.

Through their previous experiences or their present reading, the relationship of the moon and the tides will sooner or later develop many interesting questions. This is likely to be a much more concrete approach to the principle of gravitation and the revolution of the moon around the earth than is a demonstration by a planetarium—though the latter will, of course, be very helpful if the pupils can use it to visualize the relationships of earth, moon, planets, and sun.

The relative masses of the earth and the moon, the relative speeds in revolution, the monthly rotation of the moon, the lack of atmosphere on the moon, the importance of atmosphere to the earth, why the earth can retain its atmosphere while the moon's atmosphere, if it ever had any, has escaped, the probable temperature of the hemisphere toward the sun and of the hemisphere away from the sun, the similarities and dissimilarities of the surfaces of the moon and of the earth, the occurrence of partial and total eclipses and the exactness with which they can be foretold, are a few of the interesting challenges to thinking and "research" that will probably arise.

The mathematical implications of all this quantitative thinking may seem slight to the mathematician. If so, it is because he has become immersed in his subject organization. The relative volumes of the earth and the moon can be determined if the moon's diameter (2,200 miles) is given. The relative density can be discovered if the relative masses are given (the moon weighs approximately $\frac{1}{80}$ as much as the earth). The relative force that each exerts on the other may be determined if Newton's second law of motion has been stated. The resolution of forces due to inertia or momentum, into centrifugal tendency and the orbit direction, the pull of the moon on the earth, the re-enforcement and competition of solar and lunar tides, and many other problems lend themselves to rough approximations through calculations. The intermediate step between sensing the problem and its calculation involves scientific reflection. These approximations can later be compared with the more exact findings of scientists by reference to texts or reference books.

Such calculations, in turn, direct the pupils' attentions to many other questions that call for consideration. Where does

the energy come from which is evidenced by tides? How does it get replenished? Is the moon slowing up in its motions? If so, will it gradually draw nearer the earth? If this were likely would tides become greater or less great? would centrifugal force be greater or less great?

The interesting ramifications are endless. But the clever teacher will not permit the project to wear out. Unanswered questions will be referred to a special "committee on the moon's future," or some other good-natured but significant title; the class itself will plunge into another problem. Before leaving the project, however, the teacher will assure himself that the pupils have identified the full moon and the waning moon and that they understand why only the lighted surfaces of the moon are visible to persons on the earth.

Another problem: On what basis do tax-payers contribute to the public budget? Let us assume that real estate assessments have been increased, and that the teacher utilizes the community's interests in the matter to motivate another project involving quantitative and reflective thinking. The papers publish the official statements; in their editorial columns they comment on the significance and justification of the increases; and they publish letters of protest or commendation in their contributor's columns. The class's bulletin-board is filled with newspaper and magazine clippings, tables, diagrams, and articles dealing with problems of real estate values and assessments and taxation.

Pupils who are interested are encouraged to give their own and their parents' views and those of their civics texts regarding real estate taxation. Such questions as the following arise from class discussion of these statements. How are values of houses, land, and personal property determined? How are prices in general fixed? How does the law of supply and de-

mand function? Does it work differently for perishable and for relatively permanent commodities? How do fashion, advertising, the desire to have " brand new " articles affect demand, supply, and price?

In fixing the values of property for purposes of taxation, is the assessor influenced only by the market value of property? Does the amount of money demanded by the state, county, and municipality to carry on its services influence the valuation assessed? Ought it to do so? Does the encroachment of a business section upon a residential section affect sale values of homes in the latter area? Does this affect assessments? Ought it to do so? How do other developments in a community affect house values? school-buildings? parks? churches? sewers? sidewalks? a foreign or negro colony? public garages? the building of many houses all alike on small plots? the presence of an " estate"—a large house with ample grounds, gardens, and garages? the inclusion of such " tax-exempt " institutions as public hospitals and homes for the aged? How is the total tax of a community determined? the tax-rate?

These are a few of the many problems that arise from the consideration of the question of local public finance. Some are so significant for all citizens, young and old, that practice in quantitative thinking in regard to them should be afforded. Most of such problems may, however, be assigned to committees of interested pupils, for the preparation of reports to make to the class. Such reports would be illustrated by diagrams, graphs, and pictures.

Committees would be encouraged to submit to the class problems for mathematical computation to illustrate the principles involved. Such mathematical computations should be simple—in adult life, they are very simple. In mathematics texts, when such problems are included, they are too often

used to motivate relatively elaborate mathematical processes. The purpose of the course proposed in this chapter is not to *teach mathematics as such,* however; it is sufficient that it encourage and give practice in such quantitative thinking as is typical of actual, desirable, unspecialized adult activities.

Proposed Development of Such a Course. Assuming that the desirability of a course aiming to develop scientific attitudes and interests, such as is proposed in this chapter, appeals to the administrators and teachers of a given junior high school, how may it best be developed and introduced? A few interested teachers qualified to teach both science and mathematics should accept appointment as a committee to organize the course in outline. They would collect and evaluate such proposals as those of Bobbitt, Charters, Briggs, and other leaders; they would read such articles and reports as are listed in the bibliography, and examine recent science, social study, and mathematics texts. They would then set forth a list of topics or problems, and elaborate one or two of them to indicate the teaching methods that seemed best adapted to the objectives of the course.

After inviting criticism and suggestions from other members of the faculty, they should introduce the plan into a few sections of the seventh grade, generally taught by the committee members themselves. After a year, the plan should be modified in the light of experience, and then all seventh grade sections might follow the outline. Its introduction into the eighth grade would likewise be gradual. Only interested teachers who enjoy pioneering should be encouraged to carry on the work. Many mathematics teachers are, unfortunately, not prepared to experiment in the realm of science. If their time cannot be used to teach elective mathematics, then enough sections of eighth grade general science and of general mathematics may have to be continued for some years to

provide them with classes. Such penalizing of pupils for the sake of their teachers should, however, not be continued longer than is actually necessary.

The course should be very flexible; it should include many more topics and problems than any one class would be expected to complete. Teachers should be free to introduce topics not listed by the committee, provided these are adapted to the purposes of this course, whenever current events or school interests bring new problems to the focus of public attention or of class interest.[1] In general, such a list of topics as those suggested for the seventh grade general science course at Blewett, given earlier in this chapter, is sufficient, but the actual topics or problems should be modified in the light of Curtis's list of children's interests and of their adaptability for promoting such scientific traits and activities as wonder, curiosity, collecting, comparing, classifying, and reflective thinking.[2] Curriculum committees should constantly bear in mind that the level of verbal abstract thinking possible is conditioned by original intelligence. The course should be planned so as to challenge the abilities of the brightest minds,

[1] An example of such a vital departure from a set course is given by C. O. Halloran of Hart Intermediate School, Boston: " . . . During the course of a recent lesson on electricity one of my pupils raised a question to the effect that he connected up some dry cells to some electric bulbs but no light resulted. I had this pupil state to the class just exactly what he had done. When he had finished, nearly half the boys in the class raised their hands and volunteered to explain to the boy the reason for the failure of the experiment. I told the boy to bring into class next time his apparatus and he will perform the experiment before the class. The latter will decide why the experiment fails. When the class ended its session, I had requests from about fifteen boys who wished to bring into school their apparatus of different kinds and explain various experiments that they performed at home. To these requests I was only too willing to acquiesce, for I considered it an evidence of their enthusiastic interest in the subject. If more of such a thing could be encouraged by teachers, there would be no doubt as to the success of the teaching of this subject."—"General Science in the Junior High," *Journal of Education*, December 11, 1924, pp. 604 ff.

[2] Cf. Beck, Hildegarde: "Adjusting the Course of Study in Ninth Grade Mathematics to the Ability of the Pupil," *Mathematics Teacher*, vol. XXI, no. 1, January, 1928.

but there should be always alternative challenges of concrete, executive, or mechanical nature so that duller children will not feel the ignominy of failure.[1]

Can the Outcomes of Such a Course Be Measured by Tests? Obviously, standardized uniform tests of knowledge or skill are of very limited value in connection with the major outcomes of a course which would never be twice the same except in its general scope and character. It is reasonable to expect that pupils who had experimented with and wondered at and read about the science materials and problems which they had investigated would know the answers to many, perhaps most of the questions asked on the Ruch-Popenoe tests. Unfortunately, however, if uniform standard tests are given, even if they seem reasonable in scope and standards, they are almost certain to drive instruction into a fact-teaching, skill-fixing grind. They exalt the incidental and insignificant, and neglect the truly important outcomes.

The traits that need measurement for growth are attitudes and behaviors. Such traits do not lend themselves to the usual testing technic. Frederick has been successful, however, in getting data, and his methods and findings should be of value to pioneers.

Frederick compared the conventional and an experimental method of teaching ninth grade science. In addition to fact tests, he measured the achievements of control and experimental sections. He studied (1) improvements in health and in health habits; (2) the pupils' reading during their leisure time; (3) the other leisure time activities of the pupils, especially during the Christmas vacation.[2]

[1] Cf. Curtis, Francis D.: "A Digest of Investigations of the Teaching of Science in the Elementary and Secondary Schools," Blakiston's Son & Co., 1926.

[2] Frederick, Robert: "An Experimental Evaluation of Instructional Methods." Doctor's dissertation, New York University, February, 1925.

Collings in his "Experiment with a Project Curriculum" [1] and Hurd in his efforts to determine the effect of purposeful science activities on character traits [2] have used measures of behavior. Pickett has measured certain behavior outcomes of two methods of teaching science.[3]

Such tests have considerable value in fixing the goals of education in behavior changes rather than in mere facts and skills. Scientific interests and attitudes tend thus to be set up as goals of teaching and of study. It is a commonplace of practical school administration that what is measured is what is rewarded. If we wish to reward word-memorizing and abstract skills, then "new type" and standardized tests would be adequate. If we wish to reward scientific behaviors, then only tests of behavior should be employed. For what is measured and rewarded determine what will be taught and studied.

Summary. "Science," says Bertrand Russell, "is a comparatively new and very explosive force in human affairs, and it is not to be supposed that it has as yet done a hundredth part of its work in transforming society: it has as yet to cope with traditions and beliefs dating in their essence from the beginnings of agriculture. As these traditions and beliefs grow weaker, the influence of science over men's thoughts and feelings will increase. I do not feel by any means certain that the world produced by science will be better than the world in which we live, for, after all, science will have to be embodied in scientists, in whom love of system may easily lead to repression of much that is good but not easy to organize. But for good or evil the scientific world is pretty sure to come

[1] Collings, Ellsworth: "An Experiment with a Project Curriculum," The Macmillan Co., 1925.

[2] Hurd, Archer W.: "Subject-Matter Versus Character Traits," *Journal of Educational Method*, December, 1925.

[3] Cf. Pickett, Ralph E.: "A Science Course for Plumbers in a Vocational School." Doctor's dissertation, New York University, 1924.

about, and any resistance that we may offer to it is not likely to make it better when it comes." [1]

It is with a smile of superiority that we read the frequently quoted reply of the Lancaster, Ohio, Board of Education to a group of citizens who, in 1832, asked permission to use the schoolhouse to hold a meeting to promote a railroad. Permission was refused in these words:

You are at liberty to use the schoolhouse to hold meetings for all proper purposes. But railroads and telegraphs are impossible and rank infidelity. If God had intended His intelligent creatures should travel at the frightful speed of sixteen miles an hour, He would clearly have foretold it in the Holy Prophets. It is a device of Satan to lead immortal souls down to Hell.[2]

Such a reply was possible only in a "pre-scientific" age, we say; we do not always realize that our own day is also "pre-scientific." The wide-spread prejudices typical of much of our folk life, our attitudes toward heresies not only in religion but also in medicine, in government, in education, in legal procedures, in methods of taxation, in home-management, and in agriculture, stamp our age as fundamentally unscientific. Not more facts, not more technics, not greater facility in computations are needed. Eagerness to discover, to try out, to test under control all innovations or hypotheses which appeal to reason and would, if true, be significant in our lives—this enthusiasm and this attitude will typify the scientific age.

[1] Russell, Bertrand: "How Will Science Change Morals?" *Menorash Journal*, April, 1928.

[2] "Things Unknown 50 Years Ago." Editorial in the *Pennsylvania School Journal*, January, 1925, vol. 73, no. 5, p. 280.

CHAPTER IX

PRACTICAL ARTS

It is becoming trite to point out that in our urban and even our small-town life we are immersed in a mechanical civilization. In our vocational, leisure, civic, and home activities we are constantly engaged in the manipulation of mechanical contrivances—faucets and washing-machines, automobiles and wagons, electric lights and door-bells, fountain-pens and rules, vacuum cleaners and sewing machines, gas ranges and heating plants, windows and doors. As part of the family lives of boys and girls and adults, there is clothing to alter and repair, there are locks to mend or replace, letters to type, check books to keep straight, bills and receipts to file, dishes to wash and clothes to iron, grass to cut and gardens to plant, sink-traps to clean, gas engines to start, shingles to lay, painted walls to touch up.

Some of these activities are commonly spoken of as "men's jobs" and others as "women's jobs." In practice, however, many men help occasionally with the "housework," and even more women frequently tinker with the Ford, or weed the garden, and not seldom may they be found cutting the grass, or setting a pane of glass. In fact, there is a great overlapping of the unspecialized practical arts in which men and women engage.

Practical arts education should not be confused with vocational training or vocational try-outs, nor with "manual training" or fine arts. That it may promote such vital experiencing as to stimulate some boys and girls to try themselves out in prevocational courses or curricula is an impor-

tant but incidental outcome. Many pupils wish to obtain functional but unspecialized knowledges and skills in typewriting, in replacing a "blown" fuse, in adjusting a lawnmower, and in caring for and making minor repairs on clothes. Some pupils doubtless aspire to do more finished, intricate, and artistic jobs. These are wholly desirable outcomes, but they are not major ends of compulsory practical arts education.

Frequently, the boys in practical arts shops have constructed very beautiful and effective sail-boats or tabourets, and the girls in household arts classes have planned, prepared, and served "perfectly charming" luncheons at school. They may have been, nevertheless, quite unable to hang a screen door so that it will swing freely or fit a shelf into the linen closet snugly or put a patch in a skirt or coat that had caught on the barbed wire or prepare a simple meal for the family when the mother is ill or when she arrives home late. Perhaps the outstanding criticism of practical arts is that they are so seldom of any practical value.

Practical Arts Experiences for Both Boys and Girls Should Be Similar. It is not the thesis of this chapter that practical arts instruction should be identical for boys and girls, or even for all girls or for all boys. Nor is it the thesis that appreciation and skill aspects involved in practical arts be left unemphasized. The theses that the author would defend are: (1) that no separation be made between the practical arts experiences of boys and of girls which does not now in fact exist in the activities of men and women and of boys and girls in their home lives, and (2) that the major goal of the practical arts courses for both boys and girls should be functioning skills and knowledges sufficient for the practical needs of home life, civic participation, and desirable leisure-time activities. There should, doubtless, be provision for elective

homemaking and fine arts opportunities in which the peculiarly feminine arts of adornment may be practiced under the encouragement and restraint of women of refinement. There should be elective opportunities in cabinetwork for boys, in industrial procedure for boys and girls where trade processes are taught under enlightened industrial conditions. For the practical arts courses of the core-curriculum, however, the occupations of boys and girls and of men and women such as are typical of spare-time and routine duties of socially efficient, unspecialized citizens can alone indicate knowledges and skills and attitudes that should be fostered.

It may be contended that such knowledges and skills are learned by many boys and girls as a part of their incidental and informal education and, therefore, that the school need accept no responsibility for them. To whatever extent it is valid, such an objection would hold good just as truly for reading and the language arts, for civic activities, for music, and for physical recreation. It is because there is needed a co-ordinating agency to assure to all what is now the privilege of only a part of the adolescent population that the school has added to its curriculum, activities in the fields of practical arts.

The pupils who take practical arts will differ widely in original capacity, in technical skill, in familiarity with and interest in mechanical appliances and processes and in their home-encouragement and re-enforcement of the school's program. In all core-curriculum courses, instruction must be modified to exploit these resources of abilities and interests and to remedy the deficiencies that exist.

Fortunately, the aptitudes, skills, and interests in mechanical processes do not parallel very closely those traits that make for superiority in the academic or artistic fields. The practical arts courses, therefore, give many of the pupils,

who seldom or never feel wholly adequate in history, science, fine arts, and language classes, opportunity to gain the respect and admiration of their fellows and, hence, to increase their respect for themselves. Such pride of accomplishment and recognition by their peers in some field is essential for a healthy personality.[1]

Adequacy in Practical Arts Makes for Self-Confidence in Social Life. Certainty and security and self-respect gained through success in shop and kitchen become potent elements in increasing the readiness and adequacy with which boys and girls and men and women enter upon many forms of co-operative endeavors in home and church and club and business and neighborhood. Such emotional satisfaction and certainty of self enable one to co-operate with more abandon and less restraint in the many unspecialized practical activities of the community.

Nor does its value stop there. For the complacency that enables a person to enter whole-heartedly into the activities of his fellows, secure in his adequacy to meet the fundamental situations that arise, also encourages him to enter vigorously into new undertakings with his colleagues. His knowledges and skills in the practical arts may lead him into many more learning situations not only mechanical but also social, and perhaps æsthetic, in outcomes.

It is not essential to develop skills for all of the possible experiences in which youths and adults may utilize the practical arts. Indeed, the range and degree of skills necessary are not at all great. How narrow the range is, is indicated by the study reported by L. D. Fuller.

This investigator undertook first to discover the jobs which

[1] Cf. Horning, S. D., and Leonard, Ruth S.: "Testing Mechanical Ability by the MacQuarrie Test," *Industrial Arts Magazine*, 15:348–50, October, 1926.
Stendquist, J. L.: "The Case for the Low I. Q.," *Journal of Educational Research*, November, 1921.

were actually done around the homes in a Missouri community with common carpenter's and painter's tools; to list and classify these jobs; to determine what processes were involved; to organize a course of study in manual arts which would emphasize these processes. The investigation was carried on by personal interviews with fifty people and by personal inspection of twelve houses in order to get a preliminary list of jobs. This list was included in questionnaires,

TABLE II

DETERMINING THE TOOL PROCESSES

A. TOOL PROCESSES USED IN WOODWORK		B. PROCESSES OTHER THAN WOODWORKING USED IN THE 54 PROJECTS	
Number	Process	Number	Process
1	Planing.	30	Grinding.
2	Scoring.	31	Whetting.
3	Sawing	32	Filing.
4	Boring.	33	Plumbing or leveling.
5	Sandpapering.	34	Scribing to irregular service.
6	Scraping.	35	Stapling.
7	Bowsawing.	36	Mixing paint.
8	Gauging.	37	Puttying holes.
9	Nailing.	38	Filling.
10	Screwing.	39	Applying paint.
11	Gluing.	40	Removing paint.
12	Countersinking.	41	Applying varnish.
13	Spokeshaving.	42	Removing varnish.
14	Chiseling.	43	Polishing.
15	Gouging.	44	Applying wax.
16	Finishing.	45	Digging postholes.
17	Laying-out.	46	Setting posts in ground.
18	Chamfering.	47	Cutting glass.
19	Beveling.	48	Fastening with glazer-points.
20	Modeling.	49	Applying putty.
21	Carving.	50	Puttying nails, staples, tacks.
22	Mortising.	51	Removing old wallpaper.
23	Mitering.	52	Mixing paste.
24	Fitting.	53	Cutting paper.
25	Superposing.	54	Applying paste.
26	Doweling.	55	Hanging paper.
27	Inlaying.	56	Brushing paper smooth.
28	Assembling.	57	Tinkering—(general adjusting not reducible to processes).
29	Dadoing.		

four hundred and thirty of which were filled out and returned showing the jobs that were actually performed in the pupil's homes. Frequency of mention of each job was then determined and the fifty-four jobs mentioned one hundred and fifty or more times were listed and analyzed for manipulative or technical processes.

"As one runs over the list," says Fuller, "it is noticeable that fewer than half the processes are taught either as projects or in elementary form in the present courses. If home repair and construction were the objectives of the manual arts course, then present courses would need to be radically changed. For instance, painting, including puttying holes, filling, mixing, applying, and removing paint, should be taught." [1]

Garton K. Wagar, Supervisor of Industrial Arts at New Rochelle, New York, has carried a similar project a step further. He has first determined scientifically the necessary skills and knowledges, then he has endeavored to get parental cooperation in so modifying home conduct and desires that these skills and knowledges will actually function in home life.

The selection of "Home Mechanic" jobs which the pupils should be able to do before they could be "worthy members of the home," was the first problem. Long lists of these jobs were carefully studied and the jobs which were thought to be a type that would arise in the homes of the community to be served by this school were listed. This list was revised until twenty-seven jobs which seemed justifiable were accepted. Together with a list of these jobs to be checked and a request for the names of other jobs which parents desired their boys to do, the following letter was sent:

[1] Fuller, L. D.: "Manual Arts Based on Home Repair," *Journal of Educational Research*, March, 1921. Reprinted in Charter's "Curriculum Construction," The Macmillan Co., 1923, pp. 300–307.

NEW ROCHELLE PUBLIC SCHOOLS

DEPARTMENT OF INDUSTRIAL ARTS

G. K. WAGAR, DIRECTOR

New Rochelle, N. Y.

Dear Fathers of Our Boys:

One of the purposes of the shopwork in the Industrial Arts Curriculum is to train our boys in such mechanical skills and in such desires as will make them want to and able to properly take care of the modern appliances of their homes. It is our opinion that the skills acquired in the school shops will be of little value to our boys unless they have the desire to do their part in keeping up the home. This desire on the part of our boys to co-operate in the home or family welfare is of vital importance.

As soon as your son has learned to do efficiently one of these "Home Mechanic" jobs, we shall send a notice to you. After receiving such a notice, we would appreciate it very much if you will give your son a chance to try out his skill at the first opportunity offered. We are especially interested that our boys form the habit of checking up on home appliances with the idea of keeping them in repair.

We have listed on the attached sheet those "Home Mechanic" jobs which we think your boy ought to have the ability to do in a workmanlike manner by the time he has completed his shopwork in the Junior High School. Will you kindly place an (X) in the space opposite the job which your son has already done efficiently. (Done efficiently meaning—"It works.") If there are any other "Home Mechanic" jobs that you think your boy ought to be taught to do, please add them to the list. Thanking you for helping us to make your son a more worthy member of his home, I am,

Sincerely yours,

The revised list of jobs and the number of boys who had done them before the interpretive publicity program was started follows:

TABLE NUMBER I

JOBS	NUMBER WHO HAD DONE THEM.
1. Make window ventilators	1
2. Use corner and angle irons for furniture repair	1
3. Sharpen skates	2

4. Repack water faucet 2
5. Make a Western Electric splice, properly solder, and insulate 2
6. Compute cost of operating electrical machines 3
7. Soldering cooking utensils 3
8. Replace broken parts of plain furniture with new parts 3
9. Removing dents from cooking utensils 4
10. Riveting 4
11. Refinishing porch furniture and grates over areaways 4
12. Replacing picture glass 4
13. Use rubber elastic force pump 5
14. Care for a simple bell circuit 6
15. Replace broken window panes 6
16. Rewire window screens and screen doors 6
17. Cutting glass to size 8
18. Wire an electric extension cord 8
19. Wire a through switch 8
20. Refinish simple piece of house furniture 9
21. Rehang screen door 10
22. Grinding and honing of knives, chisels, hatchets, etc 11
23. Use of a battery charger 12
24. Reading an electric meter 13
25. Replacing burnt-out fuses 15
26. Hook-up dry-cells in combination 16
27. Replace an electric bulb in the dark 27

As each boy then learned to perform these jobs adequately, parents were informed of each one's achievement, and they were asked to permit the boy to try the task at home at the first opportunity. At the end of eight weeks this follow-up letter was sent:

My dear Mr. .....
(BOY'S FIRST NAME)
..... has been taught to do the following "Home Mechanic" jobs:

....
....
....

Please check the ones he has done at home during the last eight weeks. If he had done them more than once, please state the number of times. Thank you.

Yours for better "Home Mechanics"
Shop Teacher.

The following observations may be safely made:

1. Teachers select their shop problems more carefully when it is known that the reasons for using these problems as shop jobs must be justified and interpreted to the parents.
2. A higher grade of manipulative skill and job intelligence is demanded both by the pupil and the teacher when it is known that the pupil will be called upon to demonstrate his ability to do a real job and a check made on it.
3. Observations thus far would indicate, that the emotional state or mind-set of the pupils whose parents have caught the spirit of the experiment, is more conducive to learning than these of the pupils whose parents seem not as yet to be interested.[1]

The Home Contributions of Girls Can Be Promoted by Similar Means. At the Bancroft Junior High School, Lincoln, Nebraska, each girl and her parent reported occasionally on meals prepared by the pupil at home. The pupil's " Meal Service Report " included the menu, the cost of each article of food, a time schedule, a statement of results, and a list of things the pupil felt that she learned. At the same time the parent filled out a blank calculated to promote the parents' interest and understanding of what the school was attempting.

The major activities of ordinary American homes fall into these groups: (1) feeding the family, (2) clothing the family, (3) housing and furnishing, (4) house operating, (5) child care, (6) home appreciation and family inter-relationships, (7) family-community relations, (8) family health, and (9) home culture and sociability. It is obvious that most of these classifications are as directly applicable to boys and men as to girls and women, and that several of them are directly

[1] Wagar, Garton K.: "Recording the Success of Teaching Home Mechanics," in the *Industrial Arts Curriculum of a Junior High School.* Unpublished class paper.

associated with aspects of the curriculum other than homemaking.[1]

Hopkins and Kinyon have analyzed the home economics activities of junior and senior high school girls for curriculum purposes in Denver, Colorado, by means of a questionnaire submitted to 5,106 girls.

Two courses of study have been based on the findings. Cleaning, going to the store, care of own room, laundry work, and help in preparation of meals are major activities in the relative order of importance. General care of the home, some form of which is engaged in by every girl in school is predominant in the Saturday and Sunday activities. It is readily apparent that required work in junior high school home economics must place less emphasis upon skill in cookery and clothing construction and more upon *care of the home and sanitation*, together with the care and repair of appliances to be used, household and personal laundry, and proper marketing methods.[2]

The major activities of these girls are those which in many families are shared with brothers and fathers as well as with mothers.

In New Brunswick, New Jersey, in order to make the home economics work in the public schools coincide with the needs of the girls in this community, an attempt was made to analyze the activities of the girls outside of school hours. This material was especially needed when the home economics curriculum was reorganized and revised. It was realized that an analysis of the activities of the girls was only one part of the information needed in curriculum making, but it was also realized

[1] Dyer, Annie Robertson: "Educational Analysis of Home and Family Life for Curriculum Purposes." Office of Research in Home Economics Education, Teachers College, Columbia University, 1926. (In progress.)

[2] Hopkins, L. Thomas, and Kinyon, Kate W.: "Home Economics Research Monograph No. 1," Public Schools, Denver, Colorado, 1925. Paragraph above quoted from *Department of Superintendence Fifth Yearbook*, p. 366.

that it formed a very important source of material which would vary according to conditions in the community. The following table shows the frequency with which the various activities were performed by the girls of the junior and senior high schools:

ACTIVITIES PERFORMED MOST FREQUENTLY IN YOUR HOME

GROUP I

TOTAL ANSWERS	JUNIOR HIGH 409	SENIOR HIGH 295	TOTAL 704
1. Clean your own room	317	206	523
2. Help clean the house	351	211	562
3. Laundry	66	25	91
a. Do you do your personal laundry?	98	66	164
b. Do you do the family laundry?	51	13	64
c. Do you help with the laundry?	133	75	208
d. Do you do your personal ironing?	150	91	241
e. Do you do the family ironing?	83	21	104
f. Do you help with the ironing?	235	125	360
4. Wash dishes alone	261	146	407
5. Help with dish-washing	316	214	530
6. Go to store	367	234	601
7. Care for young children in family	191	67	258
8. Put up lunches for yourself	176	93	269
9. Put up lunches for other members of family	104	38	142
10. Help in canning fruits and vegetables	157	74	231
11. Preparation of breakfast alone	140	66	206
12. Help in preparation of breakfast	110	92	202
13. Preparation of dinner alone	98	59	157
14. Help in preparation of dinner	240	131	371
15. Set the table	360	254	614
16. Wait on table	194	91	285
17. Make beds for others	244	128	372
18. Make own bed	333	203	536
19. Dusting	342	224	566
20. Care of own room	323	203	526
21. Clean cupboards	190	69	259
22. Clean gas range	146	59	205
23. Care of porches and walls	174	96	270
24. Care of clothes closet and bureau drawers	238	134	372
25. Care of bathroom and tub	205	81	286
26. Care of silver	193	79	272 [1]

[1] Hadley, Grace E.: *Home Economics*. Unpublished class paper, 1926.

If Co-operation Between Male and Female Members of the Home Be Desired, the School Should Promote Such Co-operative Activities. While it is obvious that much of the instruction in practical arts connected with home life may best be carried on in classes segregated by sex, it is equally obvious that many of the activities correspond to home-activities that are performed indiscriminately by boys and girls and by men and women. It may be desirable for classes dealing with such activities to be made up of both boys and girls; in such classes they will work in a spirit of good-natured rivalry and mutual helpfulness. The very fact that the boys will be a bit " superior " in the mechanic aspects, and that girls will feel more confident in the more strictly " domestic " activities is rather a reason for promoting these shared experiences than for avoiding them.

If the community *mores* or the faculty and pupils themselves are out of sympathy with the trends of modern family life, it will, of course, be better to keep the sexes segregated for home-membership courses. But in most progressive communities boys do help their mothers and do go camping in groups or with the " Scouts," and so will be found to accept with considerable gusto the school opportunities to learn to do better those activities that they are accustomed to perform anyway.[1]

A course planned for boys and girls has been published by the Bureau of Education, under the name of " Applied Sci-

[1] Dell, Floyd: "Were You Ever a Child?" Doubleday, Doran & Co., 1921, p. 56.
To this day a man is not so much ashamed of doing "woman's work" as of seeming to *know how* to do it. It is no disgrace for a man to sew on a button, provided he does it clumsily; and the laugh with which men and women greet each other's awkward intrusions into each other's "spheres of effort" is a reassurance to the effect that the real taboo against *knowing how* has not been violated.

ence " rather than " Home Arts " in order to forestall a possible negative reaction on the part of boys and male teachers. This course consists of laboratory and classroom work, and deals with the following major topics: (1) Elementary Nutrition and Camp Cookery; (2) Choice and Care of Clothing; (3) First-Aid; (4) Sanitation; (5) Cost of Living; and (6) Personal Health.

In the Tulsa, Oklahoma, Central High School, the boys in the junior and senior years take a prescribed course called Home Crafts for Boys. This course deals with the following topics: (1) nutrition; (2) food preparation; (3) duties of a host; (4) child care; (5) textiles and clothing; (6) interior decoration; (7) budgets; (8) worthy home-membership and home appreciation; and (9) community interests.[1]

This course is an outgrowth of a questionnaire sent to the boys' parents asking them if boys should know how to perform home functions, and if so, what ones seemed to them of importance.

At Tulsa, also, is an analagous required course for junior and senior girls in " Home Crafts," though the outline does not indicate that it includes practical activities to the extent that the boys' course does. While such a course as this " Home Craft for Boys " in senior high school must be adapted if given to junior high school boys, it is, nevertheless, suggestive that older boys and their parents do welcome such work.

In 1914–16 at Solvay, New York, Junior High School, all girls were required to take, under the direction of an industrial arts teacher, instruction in some of the simpler phases of home repair work—the replacement of " blown " fuses, the

[1] "Tulsa High School Boys Required to Study Home Economics," Home Economics Letter No. 1, 1925. U. S. Depart. of the Interior, Bureau of Education, Washington, D. C.

oiling and cleaning of sewing machines, the replacing of washers in leaky faucets, the re-screening of windows and doors, and similar " jobs."

In the Alabama State Syllabus for practical arts in the junior high school, the same activities are planned for both boys and girls. They are thus prepared to meet the practical, universal situations of life that are more and more coming to typify the unspecialized activities of many communities.

Business Aspects of the Practical Arts. The unspecialized lives of boys and girls and of men and women are constantly characterized by practical social situations that may be termed " business." Their travel, for example, involves the purchase of tickets, reserving hotel and sleeping-car accommodations, checking trunks, expressing boxes, obtaining and cashing travellers' checks, paying bills, consulting information bureaus, using the telephone, telegraph, registered mail, and insuring person and property against accident. A vacation at the seashore may involve, not only many of the activities specified above, but also renting, buying, contracting for repairs, hiring of vehicles, and the like. Even if they stay at home, most of these same activities become significant aspects of their daily lives.

Business is not something that takes place only in commercial offices. Every family, every club, every school, every city is functionally a business organization and every socially adaptable person must be an adequate business man. He must produce goods or services that give satisfaction and that are considered of value by others who are willing to exchange goods for them. Every youth and adult belongs, therefore, to many business institutions and, if competent, he frequently acts as the business agent of one or another of them. He buys, sells, orders, contracts, seeks information, and accounts for

services, goods, and time. Even when not the active agent, each one is constantly a consumer of these services.

For the performance of these functions of producer, consumer, *entrepreneur*, and agent for the minor business organizations to which he belongs, every one needs at least a minimum of technical information and skill and an attitude of business accuracy and accommodation. There is needed especially the ability and readiness to make effective social contacts and adjustments which promote success in all business dealings. They require more than good manners. They include sympathetic, tactful behavior which is also most effective in one's relationships with his associates. There is needed the ability to state clearly and economically, both in speech and in writing, precisely what one means to communicate. There is necessary sufficient familiarity with the common business facilities —banks, telephones, typewriters, credit slips, bill forms, telegraphs, post-office, express company and railroad facilities, insurance and bonding agencies, and similar services used by business men and by informal business associations.[1]

Individually, each one should be competent to conduct his own affairs. In his dealing with the instruments of a commercial civilization, he must keep some balance among income and expenditure and savings; he must keep some record by which he can account for what has been earned and spent and on which he can base his anticipations for future income. He must, of course, have in some degree the desirable qualities listed in the preceding paragraph for the members of the social-business groups.

In order to accomplish such purposes, there has been introduced into many junior high schools, a prescribed course

[1] Cf. *Fifth Yearbook*, Department of Superintendence, N. E. A. "The Junior High School Curriculum," p. 437.

in " junior business training." With such provisions the author is in sympathy, although he would prefer to see it conceived of as a phase of the practical arts activities. Given as a separate course, it appears to be in danger of becoming an endlessly comprehensive course in information. In such a separate course there are generally very inadequate provisions for practical experiences with the very mechanics and instruments that are of significance to daily business activities of the unspecialized " business person "—the housekeeper, the teacher, the corridor officer, and the letter-carrier.

Verbal instruction is powerless and deceptive. Pupils may read and memorize and recite and answer questions about procedure and facilities of telephone, telegraph, express, post-office, railroads and steamships, banking, insurance, commercial credit, merchandising, customs, hotels, warehouses, local express, local transportation, trade associations, and business reference books such as are suggested by Barnhardt with the implied support of the Committee on Junior High School Curriculum.[1] He may thus approach the stage of encyclopædic knowledge. But our experiences with science, history, geography, and the rest, ought to protect us from the horrible waste involved in memorizing and forgetting words. What is needed is a relatively simple course in practical business procedures, in budgeting of time, supplies, and money, in typing, mimeographing, distributing and receiving various school forms and circulars; in carrying messages; in arranging for matters of immediate significance in which one's teachers and the school administrators, and other groups of pupils are concerned.

The school and the home are overflowing with real business

[1] Cf. *Fifth Yearbook*, Department of Superintendence N. E. A. "Junior High School Curriculum," pp. 439–441.

situations. In the school are found assemblies to plan and costumes to prepare and expenditures to finance; absence and tardiness lists to compile and copy and distribute; form-letters to fill out and envelopes to address; accounts to keep; reports to make, papers and letters to file; card catalogues to keep; and themes, reports, and newspaper-copy to type. In connection with a list similar to that just cited James M. Glass says: "Any plan of education which omits these actual life needs fails to discharge a long-standing debt to modern life and is, to this extent, incomplete." [1]

Let the verbalisms wait on the practices. The pupils will learn all that they can remember. Indeed, they will remember more because they practice what they learn, and learn about what they practice.

Comprehensive, Unspecialized Courses Best Meet the Common Needs of Junior High School Pupils. Short-unit preparatory courses are not needed at first in junior high school practical arts. In such courses the situations are typical of specialized industrial shops and commercial offices. They are, therefore, from the very beginning vocational or prevocational in purpose and interest. They do not prepare adequately for the more complex and heterogeneous social life which makes a wide range of demands for tinkering with electric appliances, Christmas trees, radios, furnaces, paint-jobs, drainage, masonry, cookery, carpet-sweepers, spark-plugs, and such business aspects of home life as have been mentioned.

Rather do we need shops and kitchens, sewing-rooms, and commercial-rooms with equipments similar to those found in homes, clubs, churches, guild halls, and similar social institu-

[1] Glass, James M.: "Commercial Education in the Junior High School." *National Education Association Journal*, Sept., 1926.

tions. It is desirable that pupils should get opportunities to do as adequately as possible in school the very tasks that they already do at home or elsewhere. But it should be recognized that the purpose of such provisions is the stimulation of self-confidence and enthusiasm for social experiences. It should be the instructor's aim to lead the pupils to learn the really important attitudes, knowledges, and skills that they do not now have in adequate quantity and quality. This requires not only a study of pupils' shortcomings, but also an intimate knowledge of their home conditions, their leisure occupations, and the civic organizations to which the boys and girls belong. But technical skill is not needed so much as are interest, confidence, joy, and familiarity in the school situations typical of social life. Self-direction should be encouraged, for self-direction is essential to practical arts activities in life. The specialized, elaborate equipment of many shops is not appropriate, since it makes for uniformity and discourages self-direction.

The Use of Books Should Be Encouraged but Not Required of All Practical Arts Pupils. In connection with vital practical arts instruction there naturally develops an interest in the serviceability and lasting qualities of commercial articles, and in the effect of changes of style and of advertising in stimulating people to want and to purchase more appliances, more clothes, and more "improvements." This, in turn, leads some pupils to read more or less widely in the related fields—the lives of inventors, the history of improvements in technical processes and in machines. All such reading should be encouraged; books, magazines, and illustrative material, pictures, charts, and diagrams may well be kept in the workrooms. But they should not be included in the course requirements; the need is to give the pupils of low I. Q. the oppor-

tunity to undergo these educational experiences without having their inadequacy in reading and abstract thinking interfere with their success. Academically unsuccessful pupils sometimes read technical directions and explanations with surprising success.

Co-operation in Determining Practical Arts Objectives Is Needed. The outcomes of practical arts courses for both boys and girls should be listed and the shops arranged so as to make it possible and probable that all will strive to accomplish these objectives. But how may such a list be achieved? Let those who are responsible for curriculum modification draw up a list of the several practical arts of which they have a working knowledge. To these they should add those fields of which they have little knowledge, but for which they feel the need. This list should be supplemented by persons who represent other fields of activity than teaching. Such a list might include: (*a*) ability and readiness to copy and compose on a typewriter; (*b*) to make change; (*c*) to hang doors; (*d*) to set glass; (*e*) to cook cereals, toast, tea, eggs; (*f*) to sew on buttons; (*g*) to test out, clean, and change spark-plugs; (*h*) ability and readiness to patch an inner tube and change tires; (*i*) ability to patch a three-cornered tear in one's clothing; (*j*) ability and readiness to wash and scald dishes clean; (*k*) ability and readiness to select cuts of meat or to choose fabrics wisely; (*l*) ability to repair and paint furniture; (*m*) ability and readiness to make free-hand sketches of situations, instruments, and jobs to be done; (*n*) ability to use the T-square, dividers, and drawing-board.

If the workrooms are fitted up with equipment necessary to provide the desired experiences, the curriculum should be planned only in the rough. In the beginning, experiences on the play level but of preparatory or diagnostic value should

be included. Thus, the boys might build for the girls a wall shelf for their kitchen, and in return for this courtesy the girls might make them some cakes or fudge. Or the boys might serve cocoa and crackers to the girls who had sewed the boys' names into their overalls.

There is endless fun and good-natured rivalry in such co-operative efforts. And what is fully as important, they give the teachers an excellent chance to discover their social and practical arts aptitudes, and the degree of confidence and potentialities for leadership that each pupil exhibits.

Summary. Broadly considered, the practical arts belong to no one field or aspect of junior high school education. Health, handwriting, spelling, computation, and study are as truly practical as are business technics, shop work, and cookery. The arts of life which are of almost universal practical value include those which will be promoted for all by all of the experiences in which all children engage. Associational living, civic attitudes, health, appreciations, the language arts, scientific interests and procedure promote the practical arts of life just as truly as do practical arts classes. Practical arts in the junior high school functions, however, to co-ordinate the practices and uses which involve the use of concrete materials and tools and processes. As such, the activities of practical arts classes re-enforce and make more meaningful the activities of the other required and elective subjects, on the one hand, and, on the other hand, they find their practical applications in promoting better homes, better neighborhoods, and other better social participations and individual adequacies.

CHAPTER X

OVERCOMING INDIVIDUAL DEFICIENCIES

In the preceding chapters there have been set forth seven phases of the core-curriculum of the junior high school. It may be expected that all pupils who have advanced through the sixth grade successfully will have sufficient skill in and knowledge of computation, spelling, handwriting, punctuation, sentence structure, and the rest, to participate in such projects as have been discussed in the preceding chapters.

Doubtless, however, there will be some pupils who, either because they have been transferred into the junior high school from grades below the sixth or because they have great difficulty with one or another aspect of the fundamental processes, will be found not to have a mastery adequate even for relatively simple activities of the core-curriculum. For such pupils, the school will have to make special corrective or remedial provisions.

Such provisions have been made in many of the progressive junior high schools. Sometimes formal classes are organized for these purposes. In some schools these special groups are called "clinics" or "hospitals"; in others, "make-up and keep-up classes"; in still others, "opportunity classes"; in one school such a class is called the "rapid promotion class"; in another, are "restoratory," "preventive," and "remedial clubs." Practically everywhere the duty of the teachers to give special attention to "weak" pupils is recog-

nized. Too frequently, however, there is no justifiable basis for judging what truly are shortcomings in the minimal essentials.

The term "shortcomings in minimal essentials" is open to all manner of differences in points of view.[1] What are the "fundamental skills and knowledges?" And how complete a control of these knowledges and skills constitutes "command of fundamentals" which is the second objective named by the National Commission on Reorganization of Secondary Education?

In connection with his discussion of "Standards for Arithmetical Fundamentals, Series B," Courtis defined the level to which all pupils should be brought in adding, subtracting, multiplying, and dividing of whole numbers as "median speed and perfect accuracy"; that is, he contended that all pupils should be required to compute as rapidly as the median pupil, as determined by his investigation, and that they should perform these computations at that rate without any errors whatever. Morrison has stated very convincingly that in every formal learning the teacher should never stop teaching and the pupil should never stop studying and practicing until perfect mastery is attained.

The Standard for Universal Achievement in the "Fundamentals" Is Frequently Placed Unjustifiably High. There is something comforting to adults who believe in stern Puritan virtues for somebody else, particularly for defenseless children, in agreeing heartily with this demand for perfection and complete mastery. Sociologically considered, it is like an old

[1] . . . If the term "minimal essentials" is to be used at all—it should be so used as to include the important attitudes, generalizations, and appreciations, and an understanding of the important institutions and problems of life, as well as the conventional skills and knowledges which hitherto have played a dominant rôle. Extract from the *Twenty-sixth Yearbook* of the N. S. S. E., Part II, 1926, pp. 16–17.

tribal initiation where the adults asserted their superiority and the children learned "respect for their elders." [1] Obviously both Courtis' standard and Morrison's standard are absurd and impossible of attainment.

What and how much are fundamental? The answer to this question depends upon at least three variables. First, one must know what control is possible for each pupil to attain and retain with only such practice as incidental living-experiences afford. Second, one must know what are the actual social demands for computation, handwriting, spelling, reading, physical health, historical and scientific knowledges, skills, and attitudes, associational living traits, practical arts, appreciations, and the rest. Third, at what age and in what grade should such skills and knowledges be attained? It is of utmost importance that junior high school faculties determine upon reasonable and conservative answers to these three questions—*what* and *how much* and *at what stage* in the child's development. Unless they do so, instruction in the so-called fundamentals may very readily take up most of the time and energy of junior high school pupils and teachers.

In practice, this is just what too often happens. On the unconsidered hypothesis that grammar, arithmetic, history, penmanship, spelling, and composition are "fundamentals," the great concerted drive of teaching, administration, and supervision is focused on "getting a high order of results" in many aspects of these subjects. But unless all pupils can master and retain the skills and knowledges "mastered," unless social intercourse actually demands of all or nearly all people such a degree of skill and information as the school undertakes to teach to all, and unless such traits are most effectively attained

[1] Cf. Uhl, Willis L.: "Secondary School Curricula." The Macmillan Co., 1927, pp. 35–36.

by all the children of junior high school age, the school's stress on the misnamed "fundamentals" is quite futile.

Nor is this all. Far more significant is the failure of skills and knowledges to transfer from the abstract practices, typical of special-help classes, to the applications in social intercourse or even in their regular class-work. Youths and adults write poorly not so much because they cannot write well as because there seems to them no reason for being careful; they know how to spell and pronounce and use correctly many of the words on which they make mistakes, but the mistakes are made because they are not attentive or just "don't care." Arithmetical errors in science or bookkeeping are due to carelessness quite as often as to inability to perform the needed operation. And so for history facts, geography facts, literature facts; many people could recall where Madagascar is, when Cleveland first became President, or what poems Whittier wrote if they "put their minds to it." They seem ignorant in conversation because these matters do not interest them enough for them to make the necessary effort to recall them.

Hence, it is futile to attempt in coaching classes, by whatever names or in whatever forms they appear, to make special efforts to drill pupils on facts or processes, if any of the following conditions are present: (1) if the desired level of accomplishment is beyond the capacity of the pupils to achieve and retain with such incidental practice and standards as are demanded in other classes and in their outside world of affairs; (2) if social usages do not make probable for the unspecialized worker the practice of the trait and the standard of achievement on which the school is insisting; (3) if the need for the knowledge in adult life is so far removed from the child that practice in it must be unnaturally motivated; or (4) if the achievement demands a maturity which only

added years will bring. Stated positively this means that extended or intensive drill is justifiable only if the skill or knowledge stressed in the special-help group is for certain immediate application either in the child's regular class work, or in the social practices of school or home or other present out-of-school groups.

What Are the Functions of the "Special Help" Classes. If this reasoning is sound, we can very well state the functions of the special help class or group or other opportunity in positive terms.

(1) In health practices for those who are so very deficient that the regular health instruction is not sufficient; under this heading would be found cardiac cases, pupils with flat-feet, serious posture defects, anæmic children and those who have other specific defects.

(2) At the junior high school age are found some pupils whose abilities or habits are so defective in regard to handwriting, spelling, good usage, pronunciation, enunciation, and oral reading that they are seriously handicapped in performing the tasks required for their school and other social needs. For such pupils the school should furnish special instruction dealing with the specific practices in which each pupil is weak, and with the application of these practices to experiences similar to those for which the pupil needs help. Such special instruction should not emphasize higher standards than will be demanded by the teacher of his regular classes.

(3) The ability to read silently, selectively, and meditatively is very closely related to inherent abstract intelligence. If too high a standard is maintained by the special-help classes, the effort involved may not be compensated by the results. Direct practice in reading texts similar to those used by the pupil in geography and history, is most likely to be applied

and practiced, and hence, to be made a permanent gain. However limited may be the possibility of interpretation of the printed page and reflection on its argument, the habit of reading silently may be promoted effectively through practice in reading simple prose purposefully and joyously, as, for example, reading to find the answers which are needed for playing a game, or to fill in blanks on a study sheet.

(4) In spite of the prominent place that arithmetic drill has attained in the seventh and eighth grades, it is difficult to find any rational basis for the speed drills and complicated examples which frequently find their places in special help classes. Neither the arithmetic of algebra and geometry, of general science, nor even of bookkeeping justifies the levels of attainment in abstract processes that are conventionally sought. In unspecialized life-activities, very little and very simple arithmetic is needed. Special help classes should, therefore, limit their effort to helping pupils solve many very simple problems drawn from general mathematics, general science, social study, and practical arts, and to such abstract work as is needed for their solution. For more advanced work reliance may be put on the regular core-curriculum activities and on those elective subjects which involve facility and special technic of computation.

(5) The possibility of special help opportunities for pupils who have shortcomings in other minimal essentials, such as appreciations, nature study, practical arts, associational living, or the social arts and sciences, has scarcely received the consideration, even in the most advanced schools, that it deserves. Improvement in reading and expression, in computation, and in health, doubtless makes pupils more able to undertake some activities in these fields. Hence, as a result of the improvement of these abilities, pupils feel more confident and

adequate and are willing to take active parts in the regular class activities. And this improved attitude is itself a minimal essential for success in these fields.

Under no condition should the work of the restoratory group be confined to abstract drills. Knowledge must be applied if it is to be retained. Studies by Gates[1] and Reeder[2] have shown how rapidly abilities decay when they are developed in excess of need. Such social projects as banking, insurance, and charting, that the pupils in the regular classes may be using, should be developed also in the restoratory groups. This will assure the application of the skills and knowledges and it will assure identical situations both in the practice group and in the regular class. Thus, the transfer of training will be promoted.

The Determination of the Objectives and Methods of Remedial Work. In order to determine what pupils should be assigned to the remedial groups and what purposes should control the instruction in these groups, answers to two questions are needed: (1) What degree of knowledge and skill in the "fundamental" processes is really needed to permit pupils to profit to a reasonable degree from instruction in the regular core-curriculum classes? (2) What pupils actually do lack this degree of skill and knowledge? In order to answer the first question direct evidence must be determined by an analysis of the least able, successful pupils in each field of the core-curriculum.

The regular classes will, of course, include a considerable amount of practice and corrective work in the use of the tools; there will be instruction and practice in the use of text-books,

[1] Cf. Gates, Arthur I.: "The Nature and Limit of Improvement Due to Training." N. S. S. E. *Twenty-seventh Yearbook*, part I, chap. XXIII, especially p. 454 ff.

[2] Cf. Reeder, Edwin H.: "Directing Children's Study of Geography." Teachers College Contribution to Education, no. 193, p. 35.

of the library, of maps and charts, of good usage, of spelling, of punctuation, of letter forms, and of mathematical processes which will necessarily be required in connection with the projects undertaken in one field or the other. Shortcomings which do not prevent success in these fields will be overcome by such practices in the regular classes. If, however, pupils do not have sufficient facility in these matters to make success possible, then they must be remanded to a hospital class of remedial or basic instruction in those fields in which they are deficient.

The Degree of Mastery and the Amount of Knowledges and Processes Needed Are Surprisingly Small. How little "mastery" is really needed as a minimum accomplishment becomes apparent if we examine the computations, usages, words, and expressions actually needed in dealing with curriculum situations necessary in the promotion of health, associational living, the understanding of civic institutions, in the exploitation of one's interests in science, in the enlargement of one's appreciations, in the communication of one's thoughts, and in the performance of such unspecialized activities as are involved in practical arts.

Even if we look beyond the curriculum situations to the activities of adult life, we find the words used, the problems solved, the geography and history facts commanded, and the books and magazines read by reasonably effective adults to be not formidable.[1]

[1] Cf. Kramer, Grace A.: "What Words Do Adults Misspell?" Baltimore Bulletin of Education, vol. 6, no. 4, January, 1928.
Harap, Henry: "Mathematics for the Consumer." *Educational Review*, vol. 74, October, 1927. Pp. 162–167.
Hockett, John A.: "A Determination of the Major Social Problems of American Life." Teachers College Contributions to Education, no. 281, 1927.
Lehman, Harvey C.: Reading Books "Just for Fun." *The School Review*, vol. 34, no. 5, May, 1926. Pp. 357–364.

Those determinations of the skills and knowledges actually used by unspecialized adults and those actually needed for successful participation in core-curriculum activities should not be confused with desirable levels of knowledge or skill on the part of children and adults. As has been pointed out above, however, the regular class may be expected to encourage and direct the growth of pupils in these traits above the minimum level.

Formal practice and drill are too often accepted as a part of general education simply because they have held so large a place in conventional schools. The acquisition of knowledges and skills as goals has been a characteristic of a school which aimed to control children, to make them docile, to make them alike in behavior and attitudes. The old school deliberately set out to make the new generation conform to the pattern of the old, and it enforced its demands with hickory sticks. Parents have revolted against the flogging of pupils by schoolmasters and an enlightened generation is now revolting against the senseless and unnecessary drills on informations and processes which are unlikely to be used.[1]

In addition to the considerations adduced in the preceding paragraphs, it should be noted that life itself cures many ills. Courtis shows the growth curves of the ability to spell two words, one of which, "sincerely," was taught in each of several grades, and the other word, "customary" was not taught, except perhaps incidentally. It is remarkable that, except for a temporary advantage in the grades when the word "sincerely" was being taught, the ability to spell these two words increased at the same rate. Other investigations have shown that many misspellings have been overcome by the eighth

[1] Courtis, S. A.: "The Individualism of Instruction." Proceedings of the Seventh Annual Session of the Ohio State Educational Conference.

grade whether pupils have been drilled on the words or not.[1] The childish expression and scrawling of the intermediate grades tend to be replaced by more mature expression and handwriting as the children grow older.

Recommended Procedure for the Foundation of Remedial and Restoratory Groups. A number of junior high schools following the lead of Washington Junior High School at Rochester have organized special classes known as "make-up and keep-up" groups. Children, who because of absence or lack of ability have been unable to make reasonable class adjustments, have been assigned to these groups. The number of pupils in a group is kept at a minimum and instruction has been based on determined needs of the pupils.

At the Oliver Wendell Holmes Junior High School in Philadelphia, this work is assigned to clubs. In the school all pupils belong to three clubs which meet on Monday, Tuesday, and Thursday. There are four types of re-enforcement clubs; *restoratory clubs* for pupils carrying conditions, *prevention clubs* warding off failure, *opportunity clubs* serving as clearing-houses for temporary needs, and *drill clubs* for attaining skill in fundamental processes. To these clubs go: (1) Children who have lost out through illness or other enforced absences; (2) those transferred from other schools; (3) newcomers who through late admission have missed part of the term's work; (4) students overburdened with home duties; (5) anæmic, undernourished or physically defective children in need of fostering care; (6) mentally slow or backward children requiring care or guidance; (7) misplaced children in need of adjusted schedules.[2]

[1] Courtis, S. A.: "The Ability Concept." Proceedings of the Seventh Annual Session of the Ohio State Education Conference.

[2] Thomas-Tindal and Myers: "Junior High School Life," The Macmillan Co., 1924, pp. 49 ff.

At the Blewett Junior High School, pupils who were over fourteen years of age on entering the seventh grade were permitted to join a rapid-promotion group as soon as they earned the privilege by serious effort in their regular classes. The group was limited to fifteen pupils; the teacher of this class attempted to help every pupil to master the reading, expressional, and number adaptations which would make it possible for him to undertake the work of his age group. Other maladjusted pupils—those who had been ill, who had entered late, or who were suffering from emotional or personality disturbances were admitted to restoratory groups, generally called "opportunity classes," the teachers of which endeavored, in co-operation with the home and with the other teachers concerned, to help each pupil get back as early as possible into the class for which his age fitted him.

Such adjustments as those cited depend on the resourcefulness and intelligence of the teachers assigned to this preventive or restoratory work. The following general comments may be made in regard to the procedures which are most commonly successful.

If the cumulative records in the office show the intelligence quotient, former school history, and other significant information regarding the children, copies of these records are filed with the special group teacher so that he may study them and make further comments as the pupil progresses. The teacher, as soon as possible, gives inventory and diagnostic tests which, supplemented by conferences and observations and by a study of the case history, help him to understand not only what the pupil's shortcomings are, but the causes of these shortcomings. Once the causes are determined, the treatment indicated is obviously to remove the causes, especially the emotional disturbances which so frequently underlie pupils' failures.

Pupils are then encouraged to undertake tasks at which they will probably be successful and by which they may as rapidly as possible overcome their deficiencies.

Two Attitudes Are of Fundamental Importance. The first involves a friendly partnership between the pupil and the teacher, and the second is the stimulation of the will of the pupil to gain the rank for which his age fits him. Such a manifestation of will depends on the pupil's expectation that if he makes an earnest effort he will succeed. For this reason, his tasks must be so graded that he frequently will succeed; indeed, he must believe that whenever he puts forth his best efforts he will surely be successful.

The pupil-teacher partnership, just referred to, succeeds just to the extent that the pupil is led to set up scholastic and behavior objectives which are for him dynamic, reasonable, and worthwhile. In the earlier stages such objectives will probably not be lists of words to spell or number processes to master; more likely they will be social competence, the ability to act as cashier in the room's bank, to preside at a public meeting of the group, to collect the subscription for the school paper.

As soon as *entente cordiale* is assured, the pupil will be made conscious of his standings on the inventory, achievement, and diagnostic tests. He will develop a note-book in which he will list his major difficulties, the words that he misspells, the computational errors of which he is guilty, and the language usages in which he makes mistakes. In this note-book he will very likely make a graph which will show by a horizontal standardized line the degree of competence which he must attain in each skill and aspect of knowledge in order to be recommended for membership in his age group. Such practice exercises or ground to be covered will then be laid out in assignments similar to Dalton contracts, or on practice sheets

with goals similar to the Winnetka goals, or achievement standards similar to those of the Courtis practice pads.

At this stage, the procedure will thus follow the Morrison Mastery Formula. There will be a pre-test, a planning of a procedure to meet the needs which the pre-test indicates, a re-test, after a study of which there will be a new set of exercises, preliminary to a second re-test. But in the plan advocated here the goal will be accepted by the pupil as his goal. The necessary attainment will be his objective. The teacher will be the partner of the pupil in helping him to attain the goal. A careful record of the progress and backslidings, difficulties and successes, of each pupil will be kept, and the parents, the former adviser of each pupil, and the hoped-for adviser will be kept informed of the pupil's achievements. It is hoped by these means to bring to bear on each pupil the most effective adult social encouragement—and occasionally adult disappointments and disapprovals, but not very often.

The "Special Help" Class Is a Mutual Aid Society. Not only should individual partnership between pupil and teacher be promoted, but also the group of pupils in the restoratory classes should be inducted into a society for mutual aid and encouragement. If the teaching exercises and drills can be organized in the form of games, competitions, and such drills as one pupil can conduct for another, as with sight cards, then the social approval of the group accompanies the interest and sense of achievement on the part of the group when any member attains success.

It may be well, indeed, to organize the group so that pupils accept special responsibilities in the fields in which they are most adequate. One might be a spelling clerk; another, arithmetic drill captain; a third, a good usage secretary. Each such officer keeps a note-book indicating the shortcomings of his

classmates. He has charge of certain test materials; whenever any pupil feels himself competent to submit to examination, he goes to each secretary who gives him a preliminary test. When all secretaries pronounce him adequate, the teacher may give him a more formal examination on the basis of which a decision is reached regarding his transfer to his regular class.

Whenever such a pupil is restored to his group the "make-up and keep-up class" may have a little party in his honor. At any rate, every effort should be made to develop the group's self-respect and to promote the group's feeling that a victory for one is a victory for all, that the success of one increases the probability that the rest will be soon successful.

Analyses of Needs Determine Remedial Instruction. For every pupil who is allocated to the restoratory classes a card should be filed on which may be recorded such information as is called for on the form used at the Harrison School of St. Louis, Missouri. When a pupil is transferred to the remedial group, the teacher of that group is guided by the record card to emphasize for each child the special practices which he needs in order to join his regular classes again.

Remedial Work in Arithmetic. In arithmetic it would be obviously wasteful to compel all pupils to practice operations or to attain degrees of skill which are not demanded in unspecialized adult life, but the studies of G. M. Wilson[1] and Carl T. Wise[2] indicate that from 81 per cent to 85 per cent of

[1] Cf. Wilson G. M.: "A School Survey in Arithmetic": A 1925 Comparison. *Educational School Journal*, vol. 27, no. 3, Nov., 1926.

[2] Cf. Wise, Carl T.: "A Study of Arithmetical Problems Arising in Various Occupations." *Elementary School Journal*, October, 1919.

Judd, C. H., and Buswell, Guy T.: "Summary of Educational Investigations Relating to Arithmetic." Supplementary Educational Monograph No. 27, 1925. University of Chicago Press.

Third and Fourth Yearbooks, Department of Superintendence N. E. A.: "Investigations in Arithmetic."

Entered
Left
Gr. and Qr.
I. Q.
M. A.
Ch. A.
Hrs. Coached

COACHING RECORD

HARRISON SCHOOL

Home conditions
Health Record

Days present during preceding quarter-year
Other significant informaton

Name

Home Room Teacher

	PREVIOUS SCHOOL RECORD				COACHING TEACHER'S RECORD				
	Subject accomplishment	Habits	Attitude	Home Room Teacher's Recommendations	Method Used	Accomplishment	Habits	Attitude	Recommendations
Spelling									
Punctuation									
Good usage									
Sentence structure									
Capitalization									
Handwriting									
Computation									
Geography									
History									
Science									

Remarks:

adult problems may be classified under the four fundamental operations and their combinations; that of these, multiplication is by far the most used process; that of all the uses of fractions ½ is used from 72 to 91 per cent of the cases, and that if we extend the list by adding ⅓, ⅔, ¼, ¾, ⅛, and ⅜ we account for 94 to 98½ per cent of the cases.

Pupils who are properly placed in the remedial groups should be tested by such diagnostic tests as are contained in the Courtis "Standard Practice Exercises," Lessons 45, 46, 47, and 48, to find out as specifically as possible what processes are causing trouble for each individual.[1] The Courtis practice lessons preceding these test lessons may then be assigned for each pupil who needs them, with such instruction in procedure as appears necessary after observation of the pupil's efforts.

Special instruction may include flash cards, to speed up their responses; these flash cards will be graded and weighted with the combinations with which the child experiences difficulty. Pupils enjoy drilling each other with such cards; especially, do they like to race each other in getting through a pack of cards in the shortest time.

Another device includes mimeographed sheets containing mixed combinations of the types with which pupils find difficulties. Each pupil may work to beat his own record, or teams of pupils may race each other, drilling the less able members on their special difficulties between the "races." As the pupils progress, new mimeographed sheets are prepared containing some more difficult examples and also enough of the type on the previous sheets so that the previously attained skills may be continuously registered. As soon as the pupils can perform accurately the procedures used in their regular classes, how-

[1] Cf. Courtis, S. A.: "Standard Practice Exercises." World Book Co., 1920.

ever, they are not drilled further, except occasionally to make sure that skills are made permanent.[1]

A study by Dr. Leroy A. King indicates how seldom errors in problem-solving are due to lack of knowledge or specific ability. Of thirty pupils who were given a sample test involving fundamental operations, eight failed to point off decimals correctly, seven borrowed incorrectly in subtraction, seven mistook the zero process in multiplication, six failed to multiply by one of the digits in the multiplier, and four treated percentage as integral numbers. Obviously, drill work in number combinations was not the treatment needed. Carelessness accounted for most of the errors. The cure for inattention and carelessness is rather a matter of pupil control than of corrective instruction. Such pupil control obviously belongs in the regular classes in exact science rather than in a remedial group.[2]

Shortcomings in arithmetic problems may very frequently be due to a lack of knowledge of the arithmetical vocabulary involved. For example Miss Chase found that many words having to do with money, land, man's work, and the names of containers for various objects were not understood by children of the 6A grade. Vocabulary building exercises rather than competitive drill is obviously the treatment indicated for such pupils.[3]

Remedial Work in Reading. Pupils who have reading difficulties may be given such a test for measuring rate and assimilation as the following one suggested by Bolenius.

[1] Cf. Wilson, G. M.: "Motivation of Arithmetic." Bulletin No. 43, 1925. Department of the Interior, Bureau of Education, Washington, D. C.

[2] Cf. King, Leroy A.: "Diagnosis of Arithmetic Abilities"—"A Phase of Educational Measurements." *Educational Outlook.* Vol. 2, no. 2, January, 1928, pp. 106–108.

[3] Chase, Sara E.: "Waste in Arithmetic." *Teachers College Record*, September, 1917, pp. 360–370.

The teacher selects a passage that presents no verbal difficulties. At a signal the children begin to read. At the end of one minute, they draw a circle around the word at which they have stopped. They answer on paper questions on the content of what was read; or they may try to reproduce it. They count the number of words they have read to get the scores per minute.

The teacher may, however, be more interested in measuring the ability of the pupils in dealing with different reading situations than in mere speed and reproduction of ideas. He may, in that case, give the first three tests of the "Stanford Achievement Tests," [1] viz., paragraph meaning, sentence meaning, and word meaning.

The results would be tabulated in consultation with the pupils, as follows:

1. Adequate command of word, sentence, and paragraph meanings—William.
2. Adequate command of word and sentence meanings; inadequate in paragraph meaning—Henry, Mary.
3. Adequate command of word and paragraph meanings; inadequate in sentence meaning—John.
4. Adequate in word meaning; inadequate in sentence and paragraph meanings—Jane.
5. Adequate in sentence meaning; inadequate in word and paragraph meanings—None.
6. Adequate in paragraph meaning; inadequate in sentence and word meanings—Ella.
7. Inadequate in all three aspects—James, Anthony, Helen.

The teacher would then work out vocabulary exercises containing words most frequently found in the text-books gen-

[1] Cf. "Stanford Achievement Tests." Published by the World Book Co.

erally used, supplementing these words by use of the Horn[1] or Thorndike[2] lists. On these exercises, the pupils in classes 6 or 7 would practice and test each other, until they felt ready to take another test.

Exercises involving the registration of sentence meanings would be worked out for classes 3, 5, 6, and 7. Such sentences would be drawn from geographies, histories, readers, and arithmetics used by the regular classes, and would be graded from simple to complex. The exercises would be scored by the pupils themselves from a key; when they seemed likely to succeed they would be re-tested by the teacher.

Similarly, paragraphs drawn from readers and texts would be mounted on cards with questions to be answered, typed on separate sheets or cards. These, too, would be scored by the pupils of classes 2, 4, 5, and 7 until the pupils were ready for a test.

In a friendly atmosphere of encouragement and co-operation, most pupils who have reading difficulties will improve as a result of such conscious practice as that outlined above. Occasionally, however, the teacher of a remedial or restoratory group will meet more stubborn cases. Morrison, indeed, asserts that "nearly always, school (remedial) cases are pedagogical in their origin. That is, they started life as learning defects." Conduct maladjustments frequently follow as compensatory reactions; sometimes there is more or less profound emotional disturbance.[3] Even so, it is fortunately unnecessary to undertake a program of medical and psychiatric

[1] Horn, Ernest: "A Basic Writing Vocabulary; 10,000 Words Most Commonly Used in Writing." Iowa University Monographs in Education, 1st series, no. 4, 1927.

[2] Thorndike, E. L.: "The Teacher's Word Book." Columbia University, 1921.

[3] Morrison, H. C.: "The Individual Adjustment of High School Pupils." *Progressive Education*, vol. 4, no. 3, July, 1927, p. 198.

treatment except in a few cases which do not respond under consciously directed efforts on the part of the teachers and children to improve rates and vocabularies and interpretations.

While these suggestions are planned for elementary school pupils, they will be found equally valuable for those junior high school pupils whose reading difficulties do not respond to practice with a conscious purpose to improve. Emphasis must be placed, however, on the positive program of encouragement and motivation, even in the case of such remedial instruction as that outlined above. A play spirit must penetrate all learning situations; concrete outcomes must be frequent. Children may keep lists of stories read by them on the bulletin-board; they will "sell" their stories to other children to get them to read them, too; they will be "lecturer and audience"; they will play word games; they will "stump" each other with "tongue twisters"; they will form reading clubs; they will keep progress charts which the principal and supervisors and visitors may admire from time to time; they will draw cartoons or will dramatize incidents drawn from their reading.

Some pupils may centre their reading about peculiarly interesting projects. An Italian boy, for example, whose parents came from Naples, read all that he could find in geographies and readers about Naples, supplemented this material by talking with his parents, and gave a talk on the geographical setting, the occupations, the street-life, and the history of the city, not only to his own "opportunity group," but to other geography classes as well. Other pupils have read about bird migrations, about a violin, about the making of coke, about clothes; projects growing in each instance out of interests which the pupils evinced in conversations with the teacher.

Remedial Work in Handwriting. In handwriting Koos made

an investigation on the adequacy and inadequacy of handwriting for purposes of social correspondence. He secured 826 judgments on 1,052 specimens. The 826 judges were made up of three groups: 176 members of classes in education in the University of Washington; 414 teachers in Washington and Ohio, and 236 other adults, non-teachers, whose judgments were secured for the most part at parent-teacher associations, women's clubs, etc. The Ayres Scale for Adult Handwriting[1] was used in grading the papers. The results of the investigation indicated that there was no need for a pupil to be required to write better than quality 60 on this scale, and that there was sufficient justification for setting the ultimate standard at 50.

Pupils who reach this standard, no matter what their formal shortcomings, should not be required to take corrective penmanship practice. There will be found few pupils who cannot write reasonably well, though many of them do not do so. Corrective drill in handwriting becomes to a large extent a good-natured "tail twisting" duty. The obligation to copy under criticism the unacceptable class papers of the previous week is often sufficient to assure legible writing by such pupils in all class work.

For a few pupils, however, formal practice in writing with attention to sitting-position, position of the paper, and manner of holding the pen, is necessary. They should be given a fair copy of the words or sentences to be written (selected to include the elements that an analysis of their handwriting shows to be defective). After practice they should include these words or phrases in paragraphs of their own composition. These they would grade on the Ayres Scale and check

[1] Ayres, Leonard P.: "Measuring Scale for Handwriting." Russell Sage Foundation.

against the Gray Score Card and then submit to the teacher for approval.

Only for the unfortunate pupil who has never learned to write is there needed the fundamental handwriting exercises in ovals, letter forms, and the like. Such a pupil should follow the instructions of the Courtis[1] or similar self-teaching methods.

A study of 3,000 illegibilities in the handwriting of children and adults, reported by Luella C. and Sydney L. Pressey, shows that the causes of illegibility were due partly to general characteristics and partly to poor letter formations. Of the general characteristics the following table of per cents of occurrences is given:

	PER CENT
Words crowded	20
Too angular	15
Re-writing	13
Breaks between letters	13
Loops too long	10
Letters crowded	7
Poor spelling	5
Crowding at side of paper	5
Miscellaneous	12
Total	100

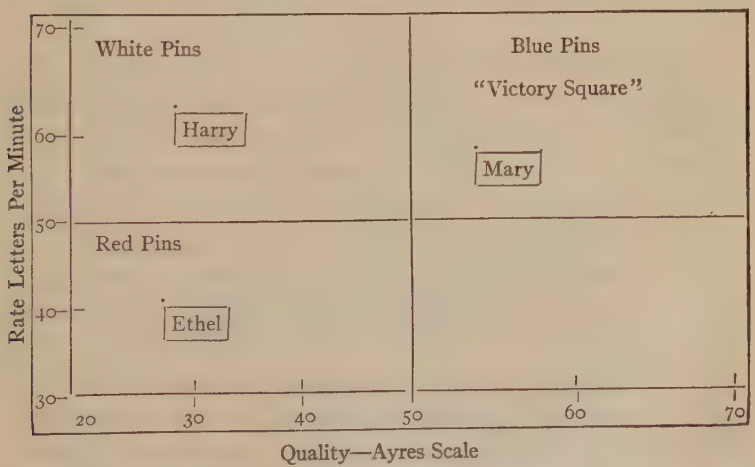
Of the sixty-three letter errors which were found the most frequent were: a like u or o, c like e, d like cl, e closed, h like li, n like u, o like a, r like i or s, s indistinct, and t like l.

The corrective practice indicated obviously grows out of individual diagnosis. Pupils whose writing is illegible because they crowd their words together must be led to focus their attention on better spacing; those who re-write words must

[1] Courtis, S. A., and Shaw, Lena A.: "Courtis Standard Practice Tests in Handwriting." World Book Co.

be led to avoid the practice; those whose a's or n's look like u's must practice writing words containing a's and n's. They may assign themselves the task of re-writing pages on which their particular faults appear. Even if the pupils will not undertake such a task voluntarily, and it is necessary for the teacher to insist on its performance, the pupil should in every case be helped to recognize that the shortcoming will only be overcome by such re-writing, and that he is the beneficiary of the requirement.

Pride and interest in self-improvement are aided by a scatter diagram on the bulletin-board with pins of different colors representing the position of each pupil in relation to the minimum level of efficiency needed for success in the work of the regular classes. If such standards were determined to be quality 50 on the Ayres Scale and a rate of fifty letters a minute, the diagram might look like this:[1]



[1]Adapted from the scatter diagram proposed by Paul V. West in "Remedial and Follow-Up Work—Handwriting, No. 2," p. 4. Public School Publishing Co., 1926.

The effort of the pupils is directed to getting their pins planted in "Victory Square" among pupils who habitually write with at least minimally accepted legibility and speed.

Such a device may be intrusted to a "handwriting secretary" who tests the pupils' rates and, under the direction of the teacher, measures the quality, both of their handwriting practice work and of their other work written when they are more intent on content than on the appearance of their handwriting. Both the secretary and the individual pupils will keep in note-books samples which have been measured and criticised by pupil, secretary, and teacher. Rapid progress will generally take place.

Occasionally, an extreme sinistral who has been obliged to learn to write with the right hand, but who has never mastered the process, becomes a serious problem. He should perhaps be advised to learn to write left-handed; but the best advice for each case should be sought before the change is made.

Remedial Work in Spelling. The words that the pupil uses and misspells, plus a few that he surely should use and would probably use if he knew how to spell them, make up the spelling lists that find a justifiable place in the corrective class. The Ayres list of a thousand words which were contained in over 2,000 letters supplemented by the findings of the outstanding studies which had been made prior to 1915 will serve as a basic list. This should be supplemented, of course, by such special words as are drawn from the locality or from the pupil's curriculum needs. Such word lists will contain all the probable needs of the children. Indeed, a somewhat superficial study made by Grace Kramer of the Research Department of the City of Baltimore Public Schools indicates that the words actually misspelled by adults included very few

which do not appear in the most commonly used 3,000 of the 10,000 as listed by Horn as most frequently used in writing.

As in the case of handwriting many children *can* spell words that they habitually misspell through inattention to spelling. For them, instruction in spelling is wasteful, though the disciplinary value of assignment to spelling clinic may make them more self-critical of the spelling aspects of their composition.

For pupils with marked spelling deficiencies, however, formal drill in word lists is necessary. The following devices recommended to the pupil by Breed [1] may be found of great value:

WHAT YOU ARE TO DO

1. *Look at the word* and *say it* softly.
   Ask your teacher, if you cannot do this.
2. *Look at the word* and *say it in a sentence* softly.
   Ask your teacher, if you cannot do this.
3. *Look at the word* and *say the letters* softly.
   Don't go on till you can do this.
4. *Close your eyes* and *say the letters* softly.
   Don't go on till you can do this.
5. *Write the word* and *say the letters* softly as you write.
   Look at your book, if you need to.
6. Draw a line under any part of the word that is hard for you.
7. *Write the word without looking* at your book.
   Cover the word on your paper with your hand.
8. *Look at your book* to see if you got it right.
   Keep trying till you get it right.
   Then write it once more after that.

Accurate visual perception of words and their graphic reproduction are the fundamental factors in the method.

[1] Breed, F. S., "What Words Should Children Be Taught to Spell?" *Elementary School Journal*, October, November, December, 1925.
Breed, F. S., "Curriculum Construction in Spelling." *The Phi Delta Kappan*, vol. 9, No. 4, Feb., 1927, pp. 118–123.

After words are mastered as words, however, pupils must be led to stop and examine them when they use them in composition; else, transfer from spelling drill to written expression will be very unlikely.

As in the case of the corrective work in other "tools," the pupil's own desire to spell the essential words correctly is of primary importance. Each pupil may keep a spelling page on which he enters the words which he has misspelled either in spelling test or in his written work. On these he studies daily, and tests himself; or, when he feels himself to be ready, he is tested by the spelling clerk. When the spelling clerk gives his approval, the pupil asks the teacher to test him on the use of words in sentences.

Remedial Work in Good Usage. The variety of errors in oral and written usage is not great. Many, perhaps most, of these errors are mistakes in idiom rather than in grammar. They are difficult to overcome chiefly because they are so common in the pupils' normal out-of-school *milieux* that their use causes him no embarrassment. They do not interfere with his expression or in others' understanding of what he wishes to convey; indeed, they may assist him.

Grammar instruction, as such, has never been shown to affect English usage favorably. Motives that require the exact word and expression are needed and such motives are to be found in the expression classes—English, social studies, science, mathematics, and the rest. The corrective class should be reserved for those pupils who because of social conditions or previous training are so seriously defective as to retard the progress of the regular classes.[1]

For them, specific practice in choosing between the correct

[1] Cf. Leonard, S. A., "Old and New in Elementary Composition Teaching." *Progressive Education*, vol. 5, no. 2, April–May–June, 1928.

and the incorrect form will help to develop an impulse to pause and reflect before speaking or writing the expression. Speech and, to a less degree, writing are so truly a part of the thought process, that mere intellectual knowledge of what is correct is very unlikely to result in deliberation before using the word or phrase. If, for example, a pupil is in the habit of saying "they was going," the stimulus-response bonds make it almost certain that "was" will follow "they" unless some obstacle intervenes which compels reflection before the next word is spoken or written. Such a device as the following one may result in the interposition of such an obstacle.

The teacher draws two vertical lines about six inches apart. He then writes down a list of singular and plural nouns and pronouns at the left of the first vertical line. At the right of the second line he writes a variety of present and past participles, adjectives, and nouns. Between the two lines he writes the two forms of the verb *to be*: *was* and *were*, thus:

Horses		running
They		white
The man	was	blind
Boys		struck
He	were	sad
The sisters		there
You		the one

One pupil after another starts with a designated word in the first column and completes a sentence using the words in the second and third columns. Of course, pupils will learn to perform this exercise skillfully, finding in the necessity for choice between alternative forms an obstacle which forces them to choose reflectively. They may not, however, transfer this obstacle to their every day speech. But if every slip noted by any teacher for a few days, results in a return to the prac-

tice with columns, the habit can very soon be broken up so far as school usage goes.

Many games used in the elementary grades which serve to accustom the pupils to hearing and using correct forms are of value in the junior high school remedial groups. One game which has served well for drill on the correct pronoun forms after *is* and *was,* is a variation of *Blind Man's Buff* in which the blind man as well as the entire class receives drill in answering. The blind man asks, "Who walks?" The answer is given by a pupil, "It is I." The blind man may have three chances at guessing the name of the child who answered. At each guess the class may say, "It is he," or "It is not he." Another blind man is chosen and the game begins again.

The *Prince of Paris,* which many teachers already use, is an excellent game because of the rapidity, interest, and large amount of drill gained in a very short space of time. The children are numbered, and the following dialogue takes place.

Teacher: "The Prince of Paris lost his hat, and who's to blame but Number Nine?"

Number Nine: "What, I, sir?"

Teacher: "Yes, sir, you, sir!"

Number Nine: "It wasn't I, sir."

Teacher: "Who then, sir?"

Number Nine: "Number Three, sir."

The dialogue is thus repeated briskly. Should a pupil fail to respond when his number is called he becomes *it,* and the game ends. Good drill on the nominative forms of the pronoun is thus afforded, after their forms and uses have been taught.

It is more difficult, however, to get the new habit to transfer to the informal and family groups outside of school, for such social approvals as exist in these groups frequently are

on the side of the incorrect form. Only if a conscious pride in his choice of words can be developed in the pupil is a general transfer likely.

Remedial Work in Pronunciation and Enunciation. What has been said of good usage is, in general, true for pronunciation and enunciation. Consciousness of enunciation, pronunciation, and good usage during our oral or written thinking would prevent, to a considerable extent, the flow of thought. And yet it is only by such a consciousness that the errors can be overcome. In general, the needed exercises are a normal part of the English class work. For an occasional very defective pupil, special exercises in the corrective class may be necessary. Such defects may be due to organic defects such as hair-lip, adenoids, and missing teeth. In such cases, the help of an expert in dealing with speech defects must be sought.

Among our urban populations there are many children whose pronunciation and enunciation are affected by the language used in their homes. Foreign idioms and verbal peculiarities are so pervasive and persistent in their effect on the language of school children that constant attention and continual resourcefulness are necessary to overcome them.

Teachers of "special-help" grades who are faced with difficulties of pronunciation and enunciation of children from homes in which foreign languages are spoken, should obtain from the Board of Education of New York City the bulletin entitled *Foreign Accent. A Supplement to the Syllabus in English for the Elementary Schools of the City of New York.*

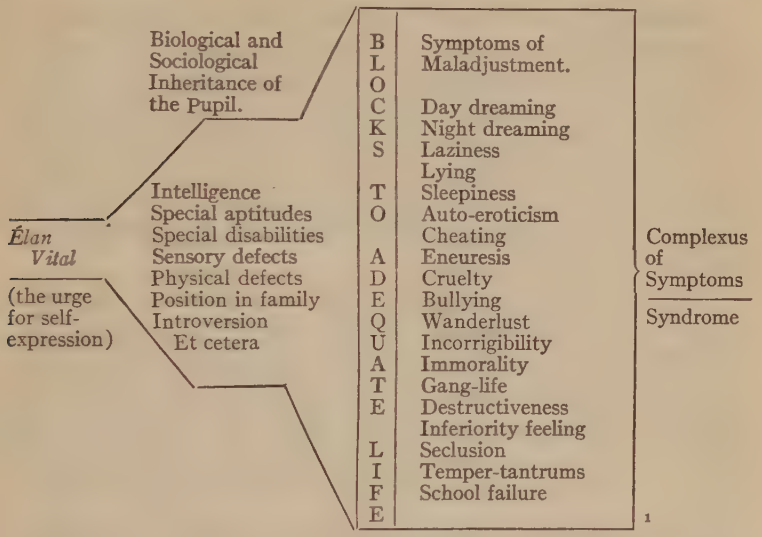
In overcoming colloquialisms of pronunciation and enunciation, the application in social situations of the knowledges and habits developed through special drills is most important. The oral reading of poems or paragraphs which depend on consciously accurate and meticulous pronunciation and enun-

ciation encourages pupils to be attentive to these aspects of reading. In dramatics, the social need for clear speech is obvious. Play situations involving buying and selling, telephoning, reception of guests, and taking part in table conversation present happy compromises between informality and artificiality which encourage the children to pay close attention to *how* to say things, as well as to what they say.

While the author would contend that the special help opportunities should be limited to those pupils who cannot fit in with the regular class work of their fellows, it is desirable that recognition be taken of the social demands for fundamental knowledges and skills as found in the general activities of the community. If it is found that neither the regular class work nor social demands justify difficult reading, difficult computation, elaborate expression, beautiful handwriting, large spelling vocabularies, then the position taken here is doubly defended.

Most Important for the Teacher of the Remedial Groups Is a Study of His Pupils. About each pupil in the special group, the teacher should learn as soon as friendly relations are instituted, the nationality and present and former occupations of the parents, the ages of his brothers and sisters, the schools he has attended, the prolonged illnesses he has undergone, whether he has headaches, indigestion, bad dreams, his out-of-school interests in play, in music, in hobbies, in money-earning, and any other information which may throw light upon his present school difficulties. The teacher will of course know the mental age and reading quotient of each one. But the remedial treatment will be experimental and positive and friendly. Except for the psychiatrist, knowing causes has little value except to increase sympathetic understanding. Knowing present and potential interests may furnish the key

to a positive program. The urge for self-expression, for adequacy, the *élan vital*, is the basis for all remedial work. Symptoms are important; but treatment must emphasize enthusiastic co-operation of pupils and teachers in purposeful activities.



[1]

The school is conscious of some or many of the symptoms. The treatment indicated, however, has little to do directly with the symptoms; it can, only to a degree, have anything to do with the pupil's inheritances or the incidents or conditions which have thwarted his normal expression and so have caused the undesirable traits which the school finds so difficult. If eyesight is defective, it may be corrected; if parents are harsh or unreasonable or inconsistent, they may be advised or persuaded to modify their treatment of the child. The school's most effective instrument in remedial work is,

[1]From a class report of Mr. Irving Bernstein, 1928.

however, the direction of its own affairs so that each child may achieve success of some kind every day. As rapidly as the *élan vital* is permitted a direct desirable outlet, reading and computation and spelling and attention and general behavior will usually improve.

Summary. Pupil failure destroys much of the efficacy of the junior high school. Where failure rates are high, administrative difficulties are multiplied; discouragement, discontent, and depression are rife among the pupils and are followed or accompanied by disorder, cruelty, cheating, and day-dreaming, and by elimination from school. Failure breeds failure; success leads to further success! If pupils are truly happy and busy they are usually good.

Reasonable standards of work may be maintained for pupils according to their abilities without resort to the lazy and resourceless trick of "failing" those who do not "come up to standard." There is necessary, however, some opportunity for pupils who are lacking in essential skills and knowledges and habits to receive the special intelligent help that each pupil needs.

Such opportunity groups require the active sympathetic co-operation of the regular class teachers, the administrative and supervisory officers, the parents, employers, officers in other school units, and of such community groups as parent-teacher associations, mothers' circles, women's clubs, art guilds, public libraries, Scouts, and the like. Hence, a persistent publicity campaign should be conducted in order that the purposes, methods, and results of the remedial instruction may be appreciated.

CHAPTER XI

ELECTIONS IN THE JUNIOR HIGH SCHOOL

The position taken in this book is that the core-curriculum should provide for all pupils at the dawn of adolescence such activities and experiences as will promote seven functional aspects of the major goals of education. Such functional aspects may be considered the school counterparts of the social objectives of education—social efficiency, worthy use of leisure, and good-will. Universal provisions for associational living, health practices, civic understanding, scientific attitudes, appreciations, the arts of expression, and the practical arts are necessary if all children are to be assured the minimal knowledges, interests, ideals, habits and powers necessary to adequate living.

Beside these universal experiences, some opportunities for pupils to come in contact with more specialized fields of learning are needed. Such opportunities are provided through clubs, through general exploratory courses, through try-out "short units," and through formal electives. By these means, pupils may explore the resources of the studies and their own adaptability for them. If they take formal elective courses in one or more fields, they may get sufficient facility with some aspects of the subjects to be able to participate in the specialized group or individual activities typical of adult social life.

Inasmuch as the core-curriculum should include only those activities which are suited to the abilities of all the pupils and which are related directly to the knowledges, attitudes, and skills that all boys and girls should have, it follows

that much of the more specialized curriculum material that has found its way into the curriculum of the conventional junior high school will have to be offered in elective courses if it is to be retained at all. No topic or process should be required of all pupils unless *all* pupils can be led to master it and unless it has a positive and specific justification for them all.

Obviously, no such claim can reasonably be made for much of the "cultural" mathematics, history, civil government, geography, technical English, conventional literature, art, music, mechanical drawing, industrial arts, sewing, cooking, printing, or any of the foreign languages—all of which are sometimes found in the core-curriculum of some " junior high schools." There are necessary both sufficient ability and sufficient interest on the part of every individual pupil to assure universal success and pleasure in every prescribed activity; else, failure for some pupils is predetermined. And to suffer failure is partial death. For the junior high school to make failure inescapable, is vicious and inexcusably stupid.

All of the cultural and specialized courses generally offered in junior high schools may be assumed to have much value for some or many pupils. For such pupils as may be interested and successful, these courses promote their fullest self-expression; they help these pupils do better the desirable activities of life, and they may make higher types of activities both desired and probable.

As many as possible of these opportunities should be offered by all junior high schools. Not only are broad elective opportunities needed to provide for individual differences in " mind-biases," interests, and aptitudes, but also they are potent factors in retaining pupils in school by furnishing one of several occasions each week when every pupil, in association with a like-minded and like-interested group, can play his

part with confidence before a sympathetic, enthusiastic audience of his peers.

School Successes Should Result from All Approvable Interests of Children. It is somewhat surprising and altogether pleasing to discover in how many different serious occupations almost all boys and girls are competent and interested. Indeed, the pupil who fails at the conventional school grind may find in instrumental music, in mechanical drawing, or in a general literature course, chances to contribute something unique in group projects. One such boy made the following varied contributions to these activities: he brought to school a violin belonging to an uncle; unknown to the class he worked out at home with infinite patience a detail of architecture which he brought in as a surprise; and he related a story which his great-grandmother had told his mother about French soldiers left behind in Russia after Bonaparte's retreat from Moscow.

It is truly inspiring to contemplate the educational significance of a feasible elective program for even a small school; it can offer very many opportunities for contacts with the great range of social backgrounds, aptitudes, and experiences that are represented in the congeries of personalities which make up the student-body. Such a broad curriculum not only increases the retentive power of the school, but also tends to guide each pupil into the curriculum-setting and perhaps into life work for which he is best fitted and in which he will find fullest expression for his unique personality.

Feasible Means for Broadening and Enriching the Curriculum Follow. It is scarcely possible for even a good-sized school of 1,500 or 2,000 pupils to offer more than a dozen or fifteen elective courses. But this range may be greatly extended by various supplementary opportunities.

1. The most common of such adaptations is the inauguration of voluntary clubs, meeting for an hour or two a week. The lack of compulsion and the purposefulness of the voluntary club make up in part for the brevity of sessions. By means of a club program the elective list in such a school may readily be extended to include sixty or more opportunities.

2. In many junior high schools, pupils are assigned for a period or two of "allotment" each week. Thus, at Blewett Junior High School, during the principalship of the author, pupils took, aside from their major subjects, a period or two each of art, music, and practical or household arts, no matter what their election was. The "allotment" period for the eighth grade coincided with the lunch periods and the greatest possible flexibility was permitted for pupils to concentrate on one subject for a week or for several weeks if they wished. The "allotments" became, thus, a kind of minor elective opportunity.

3. A much more sweeping and valuable innovation was made by Bruner at Okmulgee, Oklahoma. This plan is explained later in this chapter.

4. General exploratory courses are frequently instituted in junior high schools to encourage pupils to sample various aspects of foreign language study or commercial education. In a very real sense, but to a very limited degree, the core-curriculum provides such exploratory opportunities. It is not good practice to put into the core-curriculum courses that emphasize technic and informations that have only preparatory and selective values. Hence, such exploratory courses as general language (described in Chapter XII) and business practice (described in Chapter XVI) should be elective and preliminary to formal electives in these fields.

5. This is equally true of the try-out short-unit courses in fine arts, and in industrial and home arts. They are closely related to the core-curriculum provisions in practical arts, but they should not replace them nor be merged with them. The object of the try-outs is to lead pupils to select in what special field of fine or industrial arts they wish to take formal electives; whereas, the object of practical arts is unspecialized general efficiency.

6. The clubs, the allotments, the broadening and finding opportunities, the general introductory subjects, and the try-out short-unit courses are all introductory to the formal electives. It is not suggested that any school organize all of these means for helping pupils to select electives wisely. Some provisions should doubtless be included. Any one of those listed above may be adequate if intelligently and consistently administered.

If formal elective courses are safeguarded by discouraging from enrolling those pupils who are not interested or are not capable of success, the time of teacher and pupils is saved, and the school interest and enthusiasm both of those who do take the elective courses and of those who are thus excluded are greatly increased. Whether or not any pupil should actually be denied the right to make an unwise election will depend largely on the community's attitude toward such electives as mathematics and foreign languages. If pupils and parents are insistent, pupils must often be admitted to such elective subjects in spite of all that guidance can do. In a democracy, every individual takes it as an inherent right to "try anything once"—no matter with what disastrous results.

Formal electives are generally organized on a semester or yearly basis. In some of them, especially mathematics and foreign languages which are perhaps inherently formal, it may

be inadvisable for pupils to enter after a course has been started. This exclusion should not, however, apply to less formal subjects, such as art and home economics.

Some Exploratory Opportunities Described. Of the six curriculum instruments outlined above by which the junior high school introduces and protects its elective courses, separate treatments are given to number four, general introductory courses (Chapter XII), number five, try-out short-unit courses (Chapter XV), and number six, formal electives (Chapter XI). In the present chapter, however, the first three instruments, (1) clubs, (2) allotments, and (3) broadening and finding courses will be illustrated.

Clubs as a Phase of the Elective Program. One of the most elaborate club programs, related to curriculum re-enforcement and extension, is that of the Oliver Wendell Holmes Junior High School of Philadelphia.

The last periods on Monday, Tuesday, and Thursday are reserved for the remedial groups, the civic organizations, and the enrichment, vocational, and recreational clubs, each teacher acting as sponsor for two and sometimes three of these groups.

. . . . . .

Cultural Guidance.—Membership in the remedial groups is mandatory; membership in the civic organizations is elective; membership in the more strictly social groups is selective; that is, each pupil, with certain reservations for priority rights, enters into the vocational, recreational, and enrichment clubs of his own choice. These clubs, which are designed to cover all sorts of needs and desires of a large student-body, number more than fifty. Some, like the Dramatic Club, are cultural, offering opportunities to develop latent tastes. Others, like the Art Collectors' Club, are æsthetic and are sponsored by the departments of art and music and, in the case of æs-

thetic dancing, by the teachers of physical education. Still others, like the Camp Cookery Club, are of a more practical vocational nature and are sponsored by teachers of domestic science and manual arts. Others, like the English, the Spanish, and the French clubs, offer opportunities for extending and enriching the class work for the more ambitious and capable pupils. Before any new club may be formed, it must pass official tests showing (*a*) that it meets the personal needs of several children, (*b*) that it will add materially to the types of activities already in the school, (*c*) that it embodies some contribution toward training for efficient citizenship, (*d*) that it ministers to community needs, and (*e*) that it will not arouse political or religious animosity on the part of the parents." [1]

Allotments as a Phase of the Elective Program. At the Blewett Junior High School, during the entire seventh grade, one fifty-five minute period each day was allotted to the fine and practical arts. These allotments included experiences in the fields of music and art and the participation in group projects in the shops and mechanical drawing-rooms and in the home economics department. While most of the pupils divided their time equally among these opportunities, compulsion and prescription were reduced to a minimum. The school took the position that, if participation in singing and listening to music were repulsive to a child, compulsory attendance at chorus would be very unlikely to increase his enjoyment and appreciation. On similar grounds, pupils were not required to go to the art studios or kitchens or dressmaking-room or shops or mechanical drawing-rooms for allotments, if they and their parents preferred that they spend their time in their home-rooms studying instead.

[1] Lyman, R. L., "The Guidance Program of the Holmes Junior High School." *School Review*, vol. 32, No. 2, February, 1924. Reprinted in Lyman-Cox, "Junior High School Practices," pp. 336 ff.

Permission to study during an allotment period was granted by the home-room adviser and the grade administrator at the request of the pupil and parents—but only after personal conference with the parent. Not more than two per cent of the pupils ever asked for this permission, and probably not half of these requests were approved. This was enough, however, to assure that allotments were joyful, spontaneous adventures. Pupils attended them and enjoyed them because they were semivoluntary, and because everybody else did.

Advisers themselves took the initiative in suggesting changes more frequently, however. As they discovered interests or talents or social backgrounds that could be served better by increasing the periods devoted to music or drawing or practical arts, the advisers generally, with the prior approval of the teachers involved, permitted for particular boys and girls double allotments of one or another opportunity. In this way the allotments became for some pupils a kind of pre-election elective. As such it served to stimulate interests, increase feelings of adequacy, and permit self-exploration of aptitudes and abilities. As a result, when elections were possible, at the beginning of the eighth grade, choices were more wisely made than they would otherwise have been.

Broadening and Finding Courses at Okmulgee, Oklahoma. In order to see these courses in their setting it is necessary to state the core-curriculum at Okmulgee—English, citizenship, mathematics, physical education, and a combination course made up of music appreciation, art appreciation, spelling and penmanship, and geography.

Each day following lunch a forty-minute period is set aside for leisure activities. The aim of these activities is to broaden the child through co-operative work and play that he may be better fitted to enjoy the present and to take up life's later

responsibilities. A premium is placed on the pupil's initiative throughout. Each instructor, in offering an activity, is asked to present those things from his department which are recreational in their nature.[1]

In 1923–24 there were between seventy and eighty activities in progress every quarter-year. This program was in charge of a director the greater part of whose time was devoted to this work. As in the case of the clubs at Blewett, every child chose between remaining in the study hall and engaging in some of the rich opportunities. The various departments offered activities once or twice a week which were continued as long as a sufficient number of pupils elected to engage in them. Pupils might elect one activity and use the period for study on the other three or four days each week, or they might choose two or three activities and do all of their studying outside of school. In addition they might change activities quarterly or half yearly. This was one period when pupils were given an absolute choice of what they should do.

The list of broadening and finding courses offered in 1923–24 was as follows:

SEVENTH GRADE

Art	Mechanical Drawing
Auto-mechanics	Science
Cooking	Sewing
Electricity	Typewriting
Expression	Vocal Music
General Shop Work	Vocational Information for Boys
Instrumental Music	Vocational Information for Girls
Journalism	Woodwork

All the broadening and finding courses offered in the seventh

[1] Bruner, Herbert B., "The Junior High School at Work." Teachers College, Columbia University, Contributions to Education, No. 117, 1925, p. 16.

grade were open to eighth grade pupils, and in addition they had access to the following:

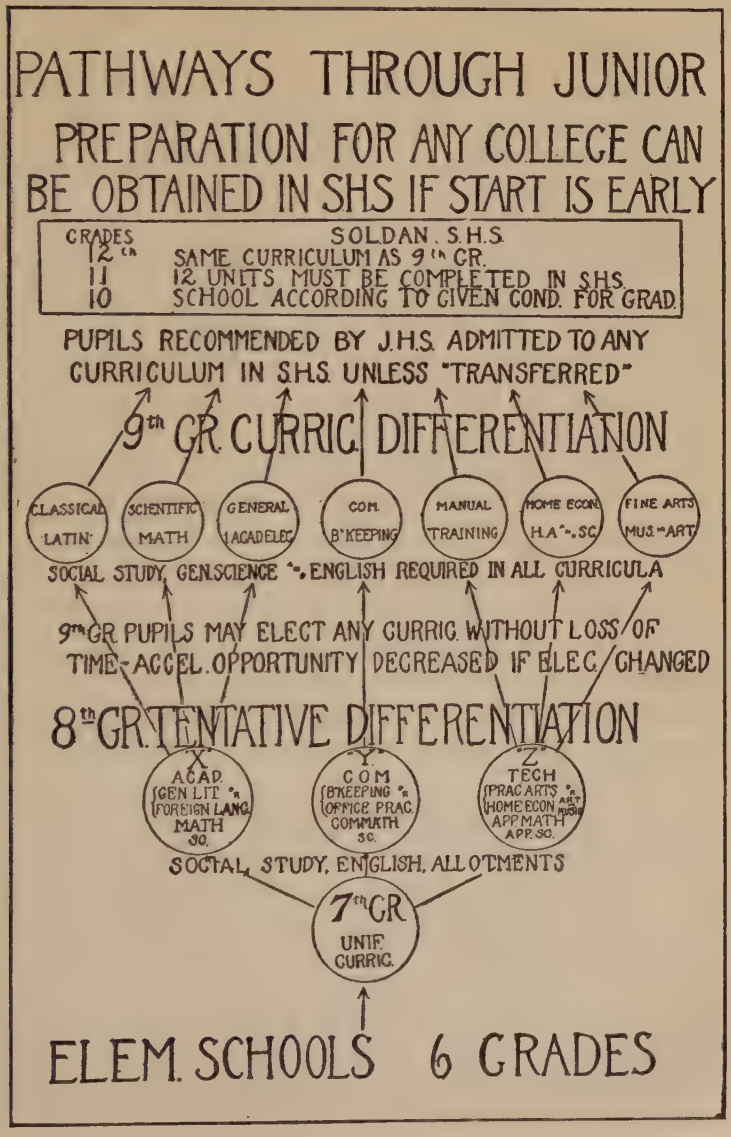
EIGHTH GRADE

Arts and Crafts
Banking
Brick-laying and Cement
Biological Science
Business
Carpentry
English-Latin
Forging and Sheet Metal
General Repairs
Home Nursing
Interior Decorating
Millinery
Physical Science
Pre-Modern Languages
Printing
Public Speaking

How the Elective Program at Blewett Junior High School Met the Situation. During the eighth grade at the Blewett Junior High School in St. Louis, five "solid" subjects were required of all pupils; of these five subjects, four (English, social studies, general science, and mathematics) belonged to the core-curriculum and were very much alike in kind, though not in degree, for all types of children. The fifth "solid" subject was elective.

During the last quarter of the seventh grade, pupils selected with the approval of the advisers and of their parents the elective subject which they desired to take in the eighth grade. It was a major function of the adviser during the seventh year to encourage class discussion, carry on interviews with pupils, their parents, and their other teachers, to the end that this selection might be made as wisely as possible.

As a preparation for this choice of elective subjects, the pupils considered seriously with their advisers the success of their class-work in their "solid" subjects and in their allotments to art, music, and practical arts, and in their club activities. This discriminating advisement-guidance made it probable that the subject elected by every pupil would be one


PATHWAYS THROUGH JUNIOR
PREPARATION FOR ANY COLLEGE CAN BE OBTAINED IN SHS IF START IS EARLY
GRADES
12th
11
10
SOLDAN S.H.S.
SAME CURRICULUM AS 9th GR.
12 UNITS MUST BE COMPLETED IN S.H.S.
SCHOOL ACCORDING TO GIVEN COND. FOR GRAD.
PUPILS RECOMMENDED BY J.H.S. ADMITTED TO ANY CURRICULUM IN S.H.S. UNLESS "TRANSFERRED"
9th GR. CURRIC. DIFFERENTIATION
CLASSICAL LATIN
SCIENTIFIC MATH
GENERAL (ACADELEC)
COM. B'KEEPING
MANUAL TRAINING
HOME ECON. H.A.-SC.
FINE ARTS MUS.-ART
SOCIAL STUDY, GEN. SCIENCE & ENGLISH REQUIRED IN ALL CURRICULA
9th GR. PUPILS MAY ELECT ANY CURRIC. WITHOUT LOSS OF TIME - ACCEL. OPPORTUNITY DECREASED IF ELEC. CHANGED
8th GR. TENTATIVE DIFFERENTIATION
X
ACAD.
GEN LIT
FOREIGN LANG.
MATH
3G.
Y
COM
B'KEEPING
OFFICE PRAC.
COMMATH
3C.
Z
TECH
PRAC ARTS
HOME ECON
APP. MATH
APP. SC.
SOCIAL STUDY, ENGLISH, ALLOTMENTS
7th GR
UNIF. CURRIC.
ELEM. SCHOOLS 6 GRADES

in which he could be successful and in which he would probably be happy.

Success and enthusiasm and interest and aptitudes were the chief reasons for guiding pupils in the selection of electives. When preliminary choices had been made by the pupils, opportunities were given to them to visit for a week or so in the eighth grade classes of the subject chosen.

In order to facilitate such preliminary visitation, the first semester classes of the eighth grade electives were regularly scheduled so as to come at the same period as the seventh grade advisory periods. When the time was ripe for the pupil who thought that he would like to elect art, for example, to visit the art classes, he was merely excused from advisory periods for a week to accept an invitation of the art teacher to sit in his eighth grade class and watch the work and participate in such activities as he felt adequate to undertake.

At Blewett, all pupils were divided into homogeneous homeroom sections according to native intelligence and scholastic success. These sections were known in the office as "A" or superior groups, "B" or average groups, and "C" or less able groups. In order to protect pupils from probable lack of success, the more abstract subjects were open only to the more able pupils.

For the less able pupils (members of the "C" groups), all the concrete and appreciational subjects were open for election. These included art, shop work, home economics, music, mechanical drawing, office practice, and general literature. These same courses were also open to the brighter pupils. The "B" sections were permitted to select, if they preferred to do so, the course in formal bookkeeping, similar to that offered in the ninth grade of the four-year conventional high school. The "A" sections could select any of these foregoing

subjects or they might select a foreign language, Latin, French, Spanish, or German, instead.

This election frequently amounted to a tentative curriculum-differentiation, for, if the pupils were successful with eighth grade work, they generally specialized in the field which they had first entered in the eighth grade. They were, of course, free to change the election at the beginning of any semester, after they had made their tentative choices.

Are Such Discriminations and Restrictions Justifiable? It is obvious that only pupils who have a high degree of abstract, verbal intelligence can work successfully in the foreign language field so long as composition and grammar form the backbone of these studies. It is almost as true that only pupils of high abstract verbal intelligence can be successful in bookkeeping which depends so much on the application of principles to situations set up verbally by means of the printed page. Studies made at the school and many other studies which have been reported by commercial and foreign language classes tend to verify these assumptions.

There is very little relationship, on the other hand, between abstract intelligence and success in the less formal school subjects including the more mechanical and artistic and executive opportunities which the school may offer. Thus, a recent study with the MacQuarrie Mechanical Aptitude Test shows a relation between mechanical ability and the I. Q. represented by a Pearson Coefficient of Correlation of only +.02, that is to say, almost no relationship.[1] Rugg's study of social adaptability as related to the I. Q. showed a correlation of +.11;[2] the Healy picture test study showed a relation of +.17.[3]

[1] Cf. Horning, S. D., and Leonard, Ruth, S., "Testing Mechanical Ability by the MacQuarrie Test." *Industrial Arts Magazine*, 15:348–350, October, 1926.

[2] Cf. Rugg, H. O., "Investigation at Lincoln School of Teachers College." Cited in Cox, "Curriculum Adjustment in the Secondary School," p. 57.

[3] Cf. Stenquist, J. L., "The Case for the Low I. Q." *Journal of Educational Research*, Nov., 1921, pp. 241–254.

Every such study known to the author has shown a relation between mechanical or artistic or executive intelligence and abstract intelligence to be not above .3. It seems most probable that the technical, artistic, and executive activities can be safely opened to all pupils with the probability that all will succeed so long as there are not required in connection with these subjects abstract problems for reflective reasoning or the reading of difficult books.

It may be objected that such restriction of electives, as Blewett made for part of its pupils, is not a democratic procedure. To such an objection there are two valid answers: (1) The first is that the school cannot absolve itself from the blame of teaching pupils to be failures by any such cant uttered in the name of a doctrinaire democracy; it is the school's problem to protect the child from his own immaturity and from stupid parental interference and more inexcusably stupid faculty influence.

(2) The second reply is that since the privilege of elections in the eighth grade has not been open in the conventional eighth grade school, the junior high school is not denying to the child any rights which have previously been accorded to children of the same grade. Since the pupils in the ninth grade (first year) of the conventional four year high school have had opportunity to elect such subjects as foreign languages and mathematics, it is probably wise for the junior high school not to deny the "privilege" of failing to pupils who have reached this grade.

But the Blewett Junior High School met this problem in a more positive fashion. Side by side with every course which was restricted to the more able pupils, there were offered richer and more enjoyable opportunities that were not so restricted. Furthermore, courses were arranged so that many pupils who

elected a foreign language entered for a brief time the substitute unrestricted course. In the academic field, for example, a course in general literature was open to all pupils on entering the eighth grade. It was elected and very much enjoyed not only by pupils of average and less than average intelligence, but also by many pupils who planned later to take a foreign language. Lyman describes this course as follows:

> The course in general literature in the eighth grade is both introductory to, and parallel to, the courses in foreign languages.
>
> General literature draws in translation from French, Spanish, Italian, German, Dutch, Scandinavian, Danish, Portuguese, Latin, Greek, and any other languages from which stories or accounts of subjects of interest to children can be obtained. The project on which one class is engaged is the lives of boys and girls in many lands. Another project in use is called "From Æsop to Seton Thompson," wherein the pupils seek out animal stories in translations from all languages. The children are helped to discover and appreciate that human beings, in all lands and in all ages, have had many great experiences in common, their joys and sorrows, their homes, schools, games and sports, pets, friends, and foes.[1]

In the commercial field, side by side with the restricted bookkeeping course was given the unrestricted course in business practice. This course like general literature was open to new pupils every quarter year, and, hence, was often taken by pupils who desired bookkeeping which was open for election only every half-year. The pupils learned to typewrite, to use the mimeograph machine, to take care of the filing of commercial papers and much of the commercial supplies; they

[1] Lyman, R. L., "The Ben Blewett Junior High School," St. Louis, Mo., *School Review*, vol. 28, nos. 1 and 2, Jan. and Feb., 1920. Reprinted in Lyman-Cox, "Junior High School Practices," Laidlaw Brothers, 1925.

acted as assistants to the secretary of the principal's office; they were appointed to assist the teacher in charge of the book-room and the teacher in charge of supplies; they served as bank-cashiers and lunch-room cashiers; they had charge of all incoming calls on the telephone; they prepared and distributed the notes to teachers which went out from the principal's office; they typed dance-orders and assembly programs. In general, they entered into the life of the school so effectively that they grew in self-confidence and got at the same time a much richer experience in business practice than did those who elected the formal bookkeeping course. As in the case of general literature, many pupils who were free to elect bookkeeping chose instead to take the business practice course for a semester or a year before beginning bookkeeping.

It was frankly a part of the school's policy to encourage all academic and commercial pupils to elect these less formal courses prior to entering the more regular high school courses. They were, therefore, permitted to enter them whenever they finished the seventh grade work without waiting until the new semester at which times the bookkeeping and foreign language work began. From the nature of the general literature and business courses this was readily possible, partly because the pupils who took them represented such a wide range in natural talent and partly because they were not organized so that the work of one week depended necessarily on the work of a previous week. They were, indeed, more like appreciation courses. Each incoming pupil was put in charge of a classmate who had been in the class for some time and from him he learned the "tricks of the trade."

This organization was true for all of the technical courses. Pupils entered them whenever they entered the eighth grade or whenever they were permitted to change from one course

to another. So far as any formal organization was necessary, this was cared for by means of job-sheets. But since these courses were almost altogether made up of concrete experiences, the pupils learned much from imitating the most able craftsmen in the class. It was a part of the duty and privilege of each pupil to help his less able or less experienced classmates. Competition gave way to co-operation. Helping one's neighbor in these courses was no longer cheating, it was an integral part of the day's work.

If the pupils persisted in their desires to take foreign language work or formal bookkeeping in the eighth grade, they were admitted to such classes at the beginning of the new semester, if they were eligible. All pupils might choose any elective courses at the beginning of the ninth grade, at any rate. But it was the purpose of the school to guide and persuade as many as possible of the pupils to find electives during the eighth grade which would so thrill them and satisfy their longing for success and self-expression, that they would continue the same elective throughout their ninth grade careers.

In this the school was only partly successful. Many more pupils elected foreign languages and mathematics in the ninth grade than could find success in these abstract subjects. However, the school having tried to forestall catastrophe now made these electives as meaningful and satisfying as possible.

A similar program for administration and guidance in relation to electives is to be recommended for all junior high schools. By regulation, advice, and conference with pupils and parents, and by the competition of more intrinsically interesting and valuable courses, the school should save all but the peculiarly qualified and scholarly pupils from elect-

ing formal subjects, at least before the ninth grade. For those who do take such subjects, despite all that the school can do to discourage such choices, the courses should be reconceived in terms of purposeful tasks, increase in power, and feelings of success on the part of the pupils.

How this may be done is discussed in the succeeding chapters dealing with academic electives.

CHAPTER XII

FOREIGN LANGUAGE ELECTIVES

It has been intimated in previous chapters that much of the impetus given to the junior high school movement during the discussion stage was based on the analogy between American secondary education and European secondary education. So great has been the momentum given to this movement by its very respectable sponsors that very seldom has the fallacy of the analogy been recognized. Even at present, much of the academic argument regarding the junior high school, both pro and contra, has to do with the introduction of formal European-type secondary education courses into the seventh and eighth grades.

The European secondary school is a highly selective school. It is probable that the formal subject organization has been maintained to differentiate the cultural and governing classes from the mass of the population. As a matter of fact, however, formal subjects do not give them tools which they actually use either in governing or in maintaining their culture.

It is difficult to say whether or not formal courses in foreign languages, in mathematics, or in science should be encouraged for American boys and girls of twelve to fifteen years of age. Such courses certainly have little relation to the present felt needs of many of them; indeed, so far as any activity analyses can show,[1] unspecialized adult educated Americans make little productive use of them either.

[1] Cf. Charters, W. W.: "Curriculum Construction," The Macmillan, Co., 1923.
Cf. Bobbitt, Franklin W.: "How to Make a Curriculum," Houghton Mifflin Co., 1923.
Cf. Wilson, Guy M.: "Social and Business Usages of Arithmetic." Teachers College Contributions to Education, No. 100.

Nevertheless, there are occasionally boys and girls who, because of natural aptitude or social inheritance, respond with very great enthusiasm to formal education during the junior high school period. For these pupils such subjects may well be offered.

There must be accommodated also, a much larger number of pupils whose parents or whose former teachers believe that mathematics, science and linguistics are the distinctive possession of the *élite*; these advisers desire, therefore, that the pupils whom they influence should study these "distinctive" subjects as early as possible. Since these pupils and their parents desire this work, it is the function of the school to offer academic courses as electives, for those pupils who can and will succeed in them, provided this is not done at a sacrifice of courses of ascertainable direct value to pupils.

In presenting the case for junior high school electives, a third group of pupils is frequently included—those whose probable future education or occupations make formal academic subjects necessary during the 7th, 8th, and 9th grades. Such a need for academic electives does not in fact exist as is shown in Chapter XVII on "College Entrance Requirements and the Junior High School."

In this chapter, therefore, an attempt is made to set down briefly the scope and methods of elective courses which might be chosen in the junior high school (1) by those pupils who are equipped with interest and aptitude for mathematics, science, or foreign language, and (2) by those pupils whose parents and other advisers exert so great a pressure that the school's guidance is nullified.

Foreign Languages. Latin, French, Spanish, German, and occasionally Italian, are the foreign languages offered by large junior high schools, though few schools offer all of them. Of

sixty junior high schools, evenly distributed throughout the country, all but two give a year or more of some foreign language. Ninety per cent (57 schools) offer at least one year of Latin; fifty per cent (30 schools) offer at least one year of French; thirty per cent (18 schools) offer at least one year of Spanish. Only 4 schools offer any German; and only one school offers Italian.

The grade placement and level of advancement of these courses is indicated by the following table:

	LATIN	FRENCH	SPANISH	GERMAN	ITALIAN
	SCHOOLS	SCHOOLS	SCHOOLS	SCHOOLS	SCHOOLS
Grade VII	12	9	6	1	1
Grade VIII	..	..	..	..	..
2d year course	12	8	5	..	..
Beginning course	31	19	9	1	..
Grade IX	..	..	..	..	..
3d year course	7	7	4	..	..
2d year course	28	13	6	1	..
Beginning course	52	22	14	1[1]	..

Several other findings of this study will be of interest at this point:

Basis of Pupil Selection of Foreign Language Courses

Eleven schools require that the pupil have a certain minimum I. Q. which varies from 90 to 115.

Twenty schools require a specific standard of achievement in previous English courses.

Twelve schools report a specific excellence in all studies previously taken.

[1] Race, S. R.: "The Present Status and Objectives of Foreign Language Courses in the Junior High School." An unpublished master's thesis, New York University, New York, 1927

Twenty-three schools report some teacher guidance of the pupil's choice.

Eight schools report that any pupil may elect a language freely, particularly in seventh and eighth grade "try-out" courses. Several schools give as the reason "needed for college entrance," or "desire of parents."

Thirty-one schools require that a foreign language be taken in specific curricula. Twenty-seven schools require no foreign language.

There is no general agreement of policy with regard to a pupil who fails a course and wishes to try the same language again or to attempt a second language. There is agreement that two failures are sufficient evidence of unfitness to continue languages.

Methods of Instruction

Three methods of language instruction were given in the replies—the Grammatical or conventional method, the Direct method (all French, all Spanish, etc.), and a Combination method, a composite of the first two methods.

Latin—Grammatical Method—	31	schools	
Combination	"	26	"
French—Grammatical	"	2	"
Direct	"	8	"
Combination	"	20	"
Spanish—Grammatical	"	2	"
Direct	"	4	"
Combination	"	12	"

About fifty per cent of the answers indicate that some form of supervised study of the advance assignment is done in class.

Aims and Objectives of Instruction

The following aims and objectives appear in the answers given: (1) Ability to read the language; (2) Ability to speak the language; (3) Ability to write the language; (4) Aids in the study of other languages; (5) Foundation for more ad-

vanced courses in senior high school; (6) Increased understanding of foreign people and life; (7) Increased command of English.

The schools were asked to list the aims given in order of importance for each language. The results are as follows:

Latin—Increased command of English; foundation for more advanced courses in senior high school; ability to read Latin; aid in study of other languages.

French—Ability to read French; ability to speak French; ability to write French; increased understanding of foreign peoples and life.

Spanish—same as for French.

In practically no case is diploma credit given in senior high school for more than one year of a junior high school foreign language course. All schools report that full credit is given for 9th year beginning courses. Five schools give one and a half years' credit for two years of a course begun in the 8th year.

The answers indicate that about 80 per cent of pupils who successfully complete 9th grade foreign language courses continue in the 10th grade senior high school foreign language courses.

The sequence of four units in Latin, one of which "must be completed in the junior high school" as Race states it, doubtless accounts, in part, for the intrenched position of Latin and the large number of pupils who study it. In the Classical Investigation, it was found that nearly a million pupils (940,000) were studying Latin in American secondary schools in 1923, but the fraction of them in the first year was very great and only thirty-one per cent of them continued the study beyond two years.[1] But as Mr. Frank Jones points out:

[1] Cf. "Report of the Classical Investigation Conducted by the Advisory Committee of the American Classical League, Part I," Princeton University Press, 1924.

"Nine-tenths of the British boys who start Latin never get beyond the linguistic side of the study. To say that such boys will have materially benefited on the humanistic side is simply untrue. The study of the whole of the 'Æneid' or the whole of the 'Odyssey' in a good literary translation, would surely have done them much more good. A boy who has had read to him Butcher and Lang's 'Odyssey' will be much more influenced by Homer's greatness than a boy who has struggled through a few hundred lines of the original which he has painfully turned into pigeon English." [1]

If any foreign language is to be of much value to pupils who do not continue it, it must be recast so that the humanistic values may be gained from the very beginning. The culture, history, customs, and aspirations of a linguistic group form the justifiable content of junior high school foreign language study. An ability to read about them in the language in which the people themselves have spoken and written and read makes the traits and acts of the people studied more concrete for some minds. For such minds, reading ability without "literal" translation should be encouraged from the beginning by practice with large quantities of very easy and interesting material.

An Introductory Course in General Language Has Gained Popularity. There have been various proposals for general language courses to be taken by pupils who might later specialize in one or more languages, and which should serve both as introduction to and as guidance in the choice of which language to study. The plans of some of these general courses follow: Leonard and Cox summarize their course in "General Language" as follows:

[1] "Educational Movements and Methods—Twelve British Schoolmasters," with an introduction by John Adams. D. C. Heath & Co.

1. A history of the development of language from the Anglo-Saxon speech of the tribes about the Elbe River down to our own times.

2. Extensive lessons in the history, derivation, and building of words.

3. Such fundamental material in grammar as is common to all languages and essential to understanding and using English.

4. Readings suggested by the historical lessons, and related to the imaginative ideas and beliefs with which English and other literatures are permeated.

5. A variety of composition suggestions to provide practice in connected speech and writing.[1]

Mr. L. H. Bugbee,[2] Superintendent of Schools, West Hartford, Connecticut, proposes

a half unit course in general language to consist of two weeks to introductory study, eight weeks to Latin, six or eight weeks to French, and two weeks to word study.

In his introductory two weeks, the teacher develops the history of language using the very beginnings of picture writing by the caveman, follows with cuneiform types and hieroglyphics, and then he leads his class through the development of language through the Greek and Latin and into the modern languages. By that time, the pupil has begun to have a language sense.

The pupils then take a trip to Italy and a foundation is laid for the study of Latin. Use of pictures, slides, maps, charts, and motion pictures was mentioned. The pupils read "The Last Days of Pompeii" for accurate descriptions of Roman life and customs, and, as interest grows, the teacher introduces the vocabulary and gradually gives a few rules in

[1] Leonard, Sterling A., Cox, Riah Fagan: "General Language," Rand, McNally & Co., 1925.

[2] Bugbee, L. H., et al: "General Language," Benjamin H. Sanborn & Co., 1926.

grammar and some simple composition. In the same way pupils make the acquaintance of France and its language.[1]

Mr. Alvah T. Otis has proposed an introductory Latin course for somewhat similar purposes.[2]

Latin in the Junior High School. Concerning the scope and purpose of the Latin course in the junior high school there has not as yet been any clear agreement or even a consensus of opinion. Mason Gray has sponsored a word-study program and a simplified grammar aimed to clarify the pupil's conceptions concerning their mother tongue. This plan has been given wide publicity due to Dr. Gray's vigorouss sponsorship and through its acceptance by the State Department of New York as the basis of the syllabus for first year Latin.

The Classical League's own recommendations for secondary school Latin as set forth in the "Report of the Classical Investigation" follow:

Much of the time in the first three semesters should be given to reading large quantities of well-graded easy Latin, so selected as to help the pupil gain a power to use and think in the language and at the same time give him a knowledge of the history and life of the Romans. Formal study of the vocabulary and grammar of the language should be considerably reduced in amount and so arranged as to assist in developing power to read and understand Latin.[3]

Latin in the Blewett Junior High School. At Blewett Junior High School, during the author's principalship, grammar,

[1] "Abstracts of the Addresses and Discussions of the Third Annual Junior-High-School Conference," School of Education of New York University, 1927, p. 28.

Cf. also Bugbee, L. H., et al: "General Language," Benjamin H. Sanborn & Co., 1926.

[2] Cf. Otis, Alvah Talbot: "Our Roman Legacy," D. C. Heath & Co., 1926.

[3] Cf. "Report of the Classical Investigation Conducted by the Advisory Committee of the American Classical League. Part I." Princeton University Press, 1924.

vocabulary, composition, and word-study were subordinated always to the one major goal—power and pleasure in reading Latin. This goal for junior high school Latin was agreed upon by the senior high school principal, the assistant superintendent of schools in charge of secondary education, and the principal and the Latin teacher at Blewett. The scope of the course is indicated by an excerpt from the teacher's report.

We have given a good portion of our time to work on derivation, endeavoring to have our students appreciate how much of our own language has come from the Latin, either directly or through the French. We have also made a study of the purely Latin expressions in use in (1) science, especially in botany and physiology which some of our pupils are studying, (2) in law, (3) in medicine, and (4) on the seals of the different States and foreign countries. In connection with this work, the pupils have collected Latin phrases and terms, and made several large wall-charts.

We have read simple Latin prose almost from the first lesson. The paraphrase from Ovid in "Gallup's Latin Reader" furnished splendid material for a very early lesson. The sentences are short, almost all the words suggest familiar English words, and the first few paragraphs are so similar to material familiar to the pupils who attend Sunday-school that they read it eagerly and with a very evident interest.

In brief, the material covered in our course includes (1) Selections from Gallup's "Latin Reader"; (2) Perseus and Hercules from Ritchie's "Fabulæ Faciles"; and (3) the selection from Cæsar in the appendix of Smith's "First Year Latin." The grammar required in ordinary first-year Latin is taught in connection with this reading. By the end of a year of such work, our pupils read "Cæsar's Commentaries" as arranged in Ritchie's "Preparatory Cæsar" with little difficulty.[1]

[1] Report to principal of Ben Blewett Junior High School, 1919–1920, by Miss Elizabeth Toomey, Teacher of Latin.

Although the grammar and vocabulary were taught incidentally to the reading of Latin, they were not left to chance. All words which occur ten times or more in Cæsar's "Gallic Wars" (Books I–IV)[1] were made a part of the pupil's sight vocabularies; all grammatical constructions which occur five times or more in Cæsar (Books I–IV)[2] were stressed until they were mastered.

It is obvious that these selected pupils at Blewett Junior High School accomplished in a single year at least as much as pupils of the conventional high school do in a year and a half. More important than that, however, is the fact that they enjoyed the work, and that except for such causes as absence or ill-health on the part of "A" type pupils, there were practically no failures among these selected children. Pupils of less ability who elected Latin in the ninth grade, generally contrary to the advice of their home-room sponsors, frequently did fail, though they doubtless gained much from the course.

The social significance of foreign language study seems to the author to be limited to the increase of civic intelligence and enlargement of the horizon of sympathetic understandings—"deprovincializing our population," Bobbitt calls it.[3] That the French or the Germans or the Italians or the Mexicans have the same love of home, the same filial and romantic affections, the same religious impulses, similar country scenery and city industries, is of utmost significance. Children may find in stories told and read in the foreign tongue an understanding more sympathetic and intimate than in any other way.

[1] Cf. Lodge, Gonzalez: "Vocabulary of High School Latin." "Teachers College Contribution to Education, No. 9," 1907.

[2] Cf. Byrne, Lee: "Latin Syntax," University of Chicago Press, 1909.

[3] Bobbitt, Franklin: "How to Make a Curriculum," Houghton Mifflin Co., 1924, p. 256.

The lines laid down by Professor Briggs for a general language course are equally adaptable for any introductory course in a modern language.

Ideally, I think such an introductory course should be made up of (*a*) *Geography*. A general survey of the world centring around the country, so that the importance of its location may be understood; (*b*) *History*. This should not be detailed but should, somewhat as in Wells' "Outlines," show the large movements that have involved the people; (*c*) *Kultur*. This was important in Rome and to modern countries as it was to the Germans; (*d*) *Realien*. The general idea that it is worth-while to travel abroad toward learning the details of other people's lives. Something of this we can get through a course; (*e*) Much literature in translation. I think it is a scandal that so much good literature is promised the child but revealed only to those who study long enough to acquire fluent reading knowledge; (*f*) Contribution of the language to English, not only in the spelling, etymology, and meaning, but also in the large field of romance of words.[1]

The primary objective of any modern language in the junior high school is its contribution to international-mindedness and general social sympathy. But the primary and wholly justifiable reason for its continued presence in the junior high school curriculum is that there are considerable numbers of children at the beginning of adolescence who find in the modern language a truly joyous adventure. They find here an experience that admits them to adult conversations and that becomes a mysterious means of communication of which their uninitiated friends are ignorant.

It is as a joyous adventure conducted on a high play level that modern foreign language justifies itself. "But joyous ad-

[1] Briggs, Thomas H.: quoted in "The Junior High School Curriculum," "Department of Superintendence Fifth Yearbook," p. 297.

venture," the Fifth Yearbook Committee points out, "must not be understood as implying easy work; for there is little joy without participating activity, and hard work is inseparable from any successful achievement in a foreign language." [1]

French in the Junior High School. In French, the relationship to English is so direct and there is so little trouble with inflections that rapid progress can be made and reasonable familiarity obtained in a few weeks. It is the custom among the more progressive teachers to develop as rapidly as possible a reading knowledge of the language, dispensing with the more laborious and intrinsically unnecessary translation. If this is the aim from the beginning, it is not difficult to develop the ability to read phrases and whole sentences in the original with no thought of English equivalents, except for unusual or new words. This is, indeed, the most permanent and useful outcome of the foreign language course for most children; for it is common experience that once the reading ability is developed, it is retained far longer than the power to compose, to speak, or to understand the spoken language.

A reasonable amount of practice in speaking and understanding spoken French is doubtless justifiable for conventional reasons and for motivation of reading.

It may help children to some appreciation of French spirit and traditions to be able to repeat "La Marseillaise" or Bonaparte's "Speech at the Pyramids."

The actual need for conversation in modern foreign languages is contingent on foreign travel or association in this country with foreign language groups. Even if one could get a considerable conversational ability during his high school

[1] Ibid., p. 294.

days; such a degree of skill would be retained only by constant practice in after-school life. Such an achievement is, however, so rare as to be practically non-existent except for those pupils who mingle with foreign language groups simultaneously with their high school courses. It should be obviously absurd to encourage considerable numbers of pupils to master French conversation at thirteen or fifteen on the chance that they may live in a foreign country when they are grown up, or that they may be interpreters or foreign-language stenographers or have other real needs for French conversation and composition.

Activities Which Should Be Encouraged and Directed. *Extensive Reading.* French literature is rich in interesting short stories which are easily read by pupils who have had a few months of school instruction. Such stories as are contained in "Petits Contes de France" by Méras and Roth, "Contes et Legendes," Book I, by Guerber, or "Stories for Oral French," by Anna M. Ballard, and such French newspapers as *La France, Le Temps*, or *Courier des Etats-Unis* are not difficult. In the beginning pupils enjoy reading *Le Petit Journal* which is especially adapted for class use. The term "well read" may characterize children at junior high school age as it does scholarly adults. Children who enjoy reading books at all find great pleasure in reading out of school such French stories and papers as have just been cited. Outside reading should be, therefore, both a means and an objective for an elective course in French. It is directly contributory to the ultimate objectives of secondary education, better home membership and worthy uses of leisure. These goals are too frequently interfered with by home-work in foreign languages. Parents spend their time urging children to study their French grammar and composition. The resultant emotional strain under-

mines home membership and makes activities associated with French distasteful as leisure time occupations.

French Clubs. As is true of all elective work, French should be characterized by spontaneous joy in adventure. In this it should typify the ideal spirit of the junior high school. The French Club furnishes an opportunity for self-selected children to participate in many creative adventures. They may publish French newspapers (one copy on a bulletin-board is sufficient) and occasionally contribute a special page to the school paper. The club may petition the school administration to have a table in the lunch-room set aside for it where pupils and sponsors may carry on their table conversation in French. They may prepare a French assembly dramatizing scenes either from their readers or from French history. Other activities of French Clubs include the keeping of scrap books and the making of picture maps of French cities and individual districts.

In co-operation with a history club or a literature club they may institute a French Week during which time special posters may appear on the corridor bulletin-boards. The library and study halls might give prominence to selected collections of French books and magazines. Mounted pictures of French buildings, scenery, and men and women who have made outstanding contributions to French and world civilization might appear on the library and classroom walls. Music classes and assembly singing might exploit French songs, compositions, and musicians. The art classes might give special emphasis to the work of French artists, architects, and engineers. Other classes might also take opportunity to utilize this enthusiasm, but the French Club would feel the glory of having promoted and sponsored the French Week.

Correspondence with French Children. The American Red

Cross is glad to promote correspondence between children in American schools and those in France or other foreign countries. The Red Cross plan, however, does not encourage individual correspondence between children. Many teachers find that the children take more interest in personal rather than group correspondence. If this is desired it can be arranged by writing to *Fraternité Franco-Americaine*, 57 Rue de Babylone, Paris, France.

All of these activities can, of course, be promoted in the French class rather than in a French Club. Unfortunately, foreign language classes always tend to become formal. Senior high schools drive them to cover so much grammar, so much composition, so many pages of facts, or such a degree of skill. Teachers naturally protect themselves by teaching the formal things that can be seen and measured and counted, so there is little time or energy left for the promotion of such joyous practices as those which have been indicated above.

In order to prevent this formalization of foreign language work the junior high school at Summit, New Jersey, has foreign language clubs meeting several times a week in the eighth grade and no foreign language "classes" until the ninth grade. If the foreign language classes are characterized by informality and spontaneity, then the clubs become mere extensions of them.

The elective French courses in many progressive junior high schools are characterized by many approvable activities. The contents of these courses are generally similar and contain the following items:

Pronunciation. Pupils learn first to pronounce their names and the names of their classmates in French. When answering to their French names in roll-call they frequently say "*Me voici*" stressing the last syllable, and thereby developing a

feeling for the rhythm of the tongue. Lists of words which lend themselves to use by the children in phrases or simple sentences are taught and are grouped so far as possible so as to illustrate the pronunciation of similar sound combinations, e. g.: *bois, soi, loi, roi, froid.* One or two short words at a time are pronounced clearly and distinctly in unison after the teacher. In this way children who have difficulty in getting these pronunciations can be selected for special drill.

Vocabulary. The vocabulary is acquired simultaneously with the conversation in easy sentences. Such expressions are first learned *verbatim* by imitating the teacher. They are then found useful as answers to simple questions and become a basis for pupils' oral composition. Hence, confidence and mastery are gained.

It is a moot question whether or not the socialized recitation in French should be encouraged. Many teachers feel that it is of supreme importance that the children should speak, hear, and write only correct forms. Hence, they must not be encouraged or permitted to use unfamiliar words or constructions. Unfortunately, the complete control of children's language activities tends to inhibit joy and vetoes the carrying on of French activities outside and beyond the classroom. Obviously, no one can learn to speak French in three hours a week, if there is no thought or practice devoted to it during the other one hundred sixty-five hours. On the other hand, if children are encouraged to use their language experiences spontaneously in class and out, they will probably mispronounce many words and will hear many more words mispronounced. This difficulty may be to some extent minimized by having the children learn in class, poems, humorous narratives, fables, and games in the hope that they will find pleasure in repeating them in place of expressions that are un-

familiar to them. This program is perhaps even better promoted by the learning of simple French songs. The following are suggested:

À cheval.
Frère Jacques.
Savez-vous planter les choux?
Sur le pont d'Avignon. (Game and song)
Promenons-nous dans les bois.
Il était une bergère.
Au clair de la lune.
Il court, il court, le furet.
Au jardin.
Cadet Roussel.
C'est la mère Michel.
Malbrough s'en va l'en guerre.

The following is a vocabulary game used successfully for review of vocabulary: "*Je pense à quelque chose. Qu'est-ce que c'est? Est-ce le crayon? Non, ce n'est pas le crayon,*" or "*Oui, c'est le crayon.*" Different verbs, such as, *acheter, regarder,* or *avoir* may be used for variation.[1]

The quantity of reading and grammar to be covered or the

[1] The following collections of songs and games are recommended:
Walter Ballard, "French Songs," 1916.
H. Carter, "Petit Recueil de chants français," Longmans, Green & Co., American Agents.
Jacques Dalcroze, "Thirty-four French Songs."
A. G. Gay, "Poésies et Jeux, Français," Brentano's.
Jameson and Heacox, "Chants de France," Holt & Co.
Dumersau, "Chansons nationales and populaires de France," Martinon, Paris.
Hess, "Some Games for French Clubs."
"Verb Games," Lionel Matthews, Los Angeles, Calif.
"Jeux," Modern Language Press, Milwaukee, Wis.
Student records for French may be obtained from the Student Education Records, Inc., Lakewood, N. J.; Cortina Phone Method, New York City; Rosenthal Language Phone Method, Disc Language Records, Funk & Wagnalls Co., 354 Fourth Avenue, New York City; Iroquois Phonograph Records, by G. P. Fougeray, Iroquios Publishing Company, Inc., Syracuse, N. Y.

degree of mastery to be attained in them is, however, of little importance. The objectives of foreign language study in the junior high school imply that children must have experience enough to want to pursue the French language further, and that their interest in French civilization and in the French people may enrich their lives. It is for these objectives and not for formal mastery that success in junior high school French must be measured.

Spanish in the Junior High School. Without doubt the same values that hold for French in the junior high school are equally valid for Spanish. In many parts of the Southwest there is the further advantage that it is the second language of a considerable fraction of the people in the community and, hence, is socially motivated. Some knowledge and appreciation of the customs, literature, history, and traditions of the Latin-Americans living in the community are of very great civic and cultural value. Mutual understanding between the linguistic groups will doubtless be promoted and suspicion of the "Greasers" may largely disappear when a considerable fraction of the English-speaking youths can understand the spoken and written language of the Spanish-speaking group. In such areas, obviously, Spanish should be the favored language in the junior high school.

Throughout the rest of the country, Spanish has had a somewhat unnatural growth which gives evidences of an impending sharp decrease. During the World War, and just preceding it, the commercial value of Spanish was emphasized by Chambers of Commerce, publicists, and other interested parties. By 1916–17, this propaganda had become so effective that in many urban high schools, Spanish became a prescription in the commercial curriculum and was, in addition, elected by a large fraction of the other pupils.

This popularity had, naturally, an important influence on the inclusion of Spanish in the junior high school. It became sometimes a prescription for ninth grade commercial pupils, and was elected by many other pupils whose parents were impressed by the prevailing fashion.

Spanish teachers claim the following peculiar advantages for the study of Spanish in the junior high school: (1) Its contribution to "Pan-Americanism" is unique; (2) it is a simpler language than German with its complicated inflections, or than French with its orthographical difficulties; (3) it lends itself readily to conversation.

In the larger junior high schools, Spanish has frequently gained a good foothold and will continue to be offered and elected by considerable numbers of children. As texts and teachers are more carefully prepared and selected, the position of the language in the junior high school will become more secure than it has been up to the present.

The valid objectives and the desirable content and methods of Spanish teaching are almost identical with those already discussed for French. A knowledge of and interest in the Spanish-speaking peoples, their country, their history, their culture, their home life, their religious practices, their economic organization and resources, their relations to the rest of the world and, in particular, to the United States, and their national aspirations form the background and the main objective of the course.

The course should have as its chief content the reading of Spanish stories dealing with Spanish and Spanish-American home life and community activities. Such readings should be illustrated by pictures, charts, maps, and diagrams which the pupils describe or label in Spanish. Reading ability can be relatively quickly "over-learned" to such a degree that it

can be retained or quickly "re-learned" in later years. Sympathetic understanding will very likely last throughout life—its emotional tone assures such an outcome.

Except in Spanish-speaking communities, oral Spanish and grammar and composition are likely to be neglected and almost lost. A few pupils elsewhere may find opportunities to practice in their homes, neighborhoods, or travels, and an occasional person may be so motivated that he will deliberately "keep up his Spanish." As a rule, however, such continuing interest may best be promoted by wide reading of Spanish literature which will result in a sympathetic understanding of the Hispanic peoples. In such readings free rendition should be encouraged and, as rapidly as possible, reading without translation should be achieved.[1]

German in the Junior High School. Until the beginning of the World War, German was the most widely studied of modern foreign languages throughout the country. In New England and in private schools under the influence of conventional culture, French was perhaps more frequently elected by pupils. The wide-spread recommendations for the study of the German language in the high schools and even in elementary schools, and its actual prescription in some city public schools and in many parochial and other private schools gave rise, during the World War, to rather hysterical charges of

[1] The following songs are suggested: "Canciones Populares," by Luce, published by Silver, Burdett; "Cancionero Espanol," by Onate, published by Vermont Printing Co.; "Spanish Songs of Old California," compiled by Charles Lummis, Los Angeles, Calif.; "El Corro de los Ninos," published by Casa Romero, Madrid; "El Cancionero Escolar," by Cruellas, published by Berdos, Barcelona.

Such games as "Lo que cantan los Ninos," by Llora, published by Prometco, Valencia, and "Primeras Lecciones," by C. M. Dorado, published by Ginn & Co., may be used effectively.

The most popular Spanish papers are *El Eco*, published by Doubleday, Doran & Co., Garden City, N. Y.; *La Esfera*, a weekly published in Madrid; and *La Prensa*, a daily paper published in New York City.

German propaganda and implications of deep designs for Germanizing America. As a result of "patriotic" enthusiasm, German was largely dropped from school and college curricula; indeed, State legislation was passed in some sections to forbid the teaching of German.

This silly stage of hysteria has fortunately passed; but German now holds a place definitely inferior to French and Spanish in the number of secondary schools offering the subject and in the number of pupils who elect this language in those schools that do include it. Its election is, however, definitely on the increase.

In many sections of the country, German is the normal "first foreign language" for the same reasons as have already been discussed in the section on Spanish. Next to the English-speaking peoples, themselves, this country has been most largely settled and developed by people from various sections of Germany. The culture, traditions, expressions, attitudes, and racial prides of the descendants of these stocks are profoundly affected by Germanic *mores*.

Apologists for the teaching of German in our secondary schools point out that our English folkways, our respect for individuality, our basal language habits and expressions, and our political and social aspirations are largely Germanic in origin. Oral command of simple German is much more readily gained by English-speaking children, they say, than is similar control of the spoken tongue of any other foreign people. German family life, German industry, German "kultur" is of general interest and within the "apperceptive" range of people of English traditions; Germans are less foreign to us of Anglo-Saxon stock than are the French, the Spanish, and the Italians; they look like us, they act like us, and the frequent occurrence of words similar to their English equivalents helps us to recognize their language as ours.

Whether or not these facts should lead Anglo-Saxon children to elect German as a foreign language rather than a "more foreign" language, is a moot question, of course. That German will regain a place fully as important as that of French and Spanish is, however, inevitable as our war hysteria finally passes away.

The aims, content, and methods of junior high school German are identical with those of French and Spanish already discussed. To know the German Republic, the German family, and the history, social structure, traditions, religions, education, and aspirations of the German peoples, is of real importance. Extensive readings in simple German prose and poetry are the best avenues for pupils to get a sympathetic understanding of these matters. Such readings should be motivated and an emotional attitude promoted by oral expression in connection with pictures, charts, and other *realien*, dialogues, memorization of poems, preparation of German assemblies, the organization of a German Club, and similar means.[1]

Italian in the Junior High School. In industrial cities the American-Italian population is becoming politically powerful and is making an important impress on the industrial and artistic world. Courses in Italian are finding their way into metropolitan high schools, and are receiving serious consideration for inclusion in the junior high school. Wherever the demand is great enough and promises to be consistent enough to assure continued enrollment for such a course, the opportunity to acquaint considerable numbers of children of early adolescence with the home-life, the culture, the traditions,

[1] Muller, Margarethe, and Wenckenbach, Carla: "Gluckauf, First German Reader," Ginn & Co.
Zeydel, Edwin H.: "An Elementary German Reader," Knopf.
Valette, Marcde: "Direkte Methode, erstes Buch," Oxford Book of German Verse.

the colorful religious observances, and the history of the Italian peoples should be eagerly seized by junior high school administrators.

Other Foreign Languages in the Junior High School. Snedden has suggested that Japanese should be encouraged in American secondary schools. Scandinavian is taught in some Minnesota and Dakota high schools. Portuguese is being urged for the schools of New Bedford, Massachusetts. Various Slavic groups may desire the inclusion of their tongues in the near future.

If and when the demand for any modern foreign language becomes consistent enough to assure the success of the course, if offered, the junior high school should make every effort to include it. Obviously, no one junior high school can include many foreign languages in its program of studies; it should include those which most probably will serve to promote international sympathetic understanding, taking into consideration the composition of the community to be served. To have large numbers of American citizens who appreciate the problems and the potential contributions to American life of all foreign groups would be a consummation devoutly to be desired.

Tests in Foreign Languages. All tests in special subjects are of limited validity. They are based on assumptions either that the subjects as now generally organized and taught are, for the purposes of the tests, in their final form, or that the objectives of the study of the subjects may be determined arbitrarily by test-makers or by the composite judgment of a group of "experts."

In the field of foreign language study the validity of these assumptions is very uncertain. Values are changing; inertia controls practices even though no intelligent person supports

the traditional aims, contents, or methods. And there is little agreement as to the desired outcomes.

Major interest in foreign language tests has centred about the so-called prognostic tests. The best known of these tests is that of L. A. Wilkins, Director of Modern Languages in the High Schools of New York City. This test is based on the following considerations:

Beyond question many students cannot, with profit, undertake the study of a modern language; that is, they cannot make satisfactory progress in the time usually assigned to the study of a modern language in our secondary schools—five periods a week, with forty-five minutes as the average length of the period. This Prognosis Test, which, in a slightly different form, has been used with some success in a few groups of students entering the high schools of New York City, presents a method of determining whether or not certain members of such groups should be eliminated from modern-language courses. It is a means of making as manifest as possible the probable fitness of those examined for pursuing foreign-language studies.

This test is not, however, to be used merely to eliminate those who do not possess the peculiar abilities that make for success in learning a foreign language. In fact, even those who fail therein might well be allowed a trial of four weeks in classes properly graded down in amount of work attempted, and at the end of that period eliminated only after failure in the Elimination Test that accompanies this Prognosis Test.

. . . . . .

Ability to learn a modern foreign language is predicated principally upon

(1) Susceptibility to impression;
(2) Readiness and accuracy of expression;
(3) Retentiveness of memory; and
(4) Grasp of the ordinary concepts of grammar.

. . . . . .

. . . To test Impression one must have recourse to tests of Expression. Hence, there are four ways possible of testing Impression and Expression:

(1) Visual-motor (seeing and writing);
(2) Aural-motor (hearing and writing);
(3) Visual-oral (seeing and speaking);
(4) Aural-oral (hearing and speaking);

There should also be a test of memory.

Finally, a test in grammar concepts is in place. This will determine the previous preparation in and grasp of the simpler principles of grammar, such as tense-sense, agreement of subject and verb, pluralization of nouns, etc. It may be objected that this is not a test of native ability. Nevertheless, a knowledge of these fundamental concepts is an important factor making for the success or failure of the student.[1]

Obviously, this test would seem likely to be valid for the courses in beginning foreign languages in New York City. The qualities tested are, however, so closely related to those comprehended by the term "general intelligence" that the latter tests are likely to serve quite as well as the specific prognostic tests in determining probable success. The variable of great importance which is not controlled, of course, is how great is the desire of the pupils to learn a foreign language.

The value of these tests in a school using another plan of beginning foreign language work, would be presumably greatly reduced, because some of the qualities tested are quite unrelated to those demanded for success in these courses.

Of even less certain validity are the various standardized tests of achievement that have been proposed or published. Because there is no clear agreement regarding the goals sought in the teaching of foreign languages, it is obviously impossible

[1] Wilkins, Lawrence A.: "Wilkins Prognosis Test in Modern Languages," World Book Company, 1921.

to regard as valid any general test which either assumes a goal satisfactory to the test-makers, or sets up a wide range of goals some of which are not accepted by the teachers whose product is being tested.

Of the earlier standardized tests of this type the "Handschin Modern Language Tests" are typical.[1] These include a comprehension and grammar test and a reading test calling for answers in French. (Permission to substitute English for French is given in Test B.) Doubtless, these tests are reasonably valid for conventional high school first year French classes. They are, however, unsuited for junior high schools which aim to attain such objectives as are suggested in this chapter.

In Latin, the only adaptable standardized tests for junior high School Latin are those of H. A. Brown and D. S. White.[2] The sections which call for translation of graded sentences may be used for this one aspect of Latin ability.

Recently there have appeared "new type" tests in modern languages. The Columbia Research Bureau tests formulated and standardized by Dr. Ben Wood of Columbia University and others are best known. These tests[3] consist of three parts. Part I is a vocabulary test of the alternative-answer form; one hundred words of the foreign language tested are each followed by four or five words, one of which is the English equivalent of the foreign word. The pupils are asked to in-

[1] Handschin, C. H.: "Handschin Modern Language Tests," World Book Company, 1920.

[2] Brown, H. A.: "Latin Tests," Parker Educational Co., Madison, Wis., and White, D. S.: "Latin Test," World Book Co.

[3] Méras, A. A., Roth, Suzanne, and Wood, Ben D.: "Columbia Research Bureau French Test," World Book Co., 1926.

Purin, C. M., and Wood, Ben D.: "Columbia Research Bureau German Test," World Book Co., 1926.

Callcott, Frank, and Wood, Ben D.: "Columbia Research Bureau Spanish Test," World Book Co., 1926.

dicate in twenty-five minutes which word corresponds in meaning to the foreign word; thus,

71. botte 1. boat 2. wineglass 3. boot 4. sandal 5. bottom .... ( )

63. gallo 1. expense 2. eat 3. rooster 4. chicken 5. gallop .... ( )

Part II is a comprehension test, consisting of seventy-five statements in French (or Spanish or German) carefully graded as to difficulty. These statements make assertions which are obviously true or obviously false. The student indicates his understanding of the statements by marking true statements with a plus sign and false statements with a zero; thus,

46. El color de una naranja es rojo .... ( )

16. Les forets et les champs sont verts au printemps .... ( )

Part III is a grammar test consisting of one hundred English sentences, each of which is followed by an incomplete translation which must be completed by the student; thus,

80. I was not permitted to do it
Ich habe es nicht (....).

30. He is favorable to my projects.
Il est favorable (——) projets.

The tests make no attempt to measure changes in attitudes toward foreign cultures or interests in linguistics. They give no measure of oral or auditory command of the languages. They do measure with obvious adequacy those applied knowledges and skills which permit of written standard answers. If they are limited in their use to the aspects which they actually measure, they can do no harm. If no judgments are

formed from their results regarding aspects which they do not measure, they should be very valuable instruments for ascertaining success of teaching methods for language knowledges and skills.

Teachers who recognize that knowledges and skills constitute one (but only one) valid outcome of the study of foreign languages in junior high school work may well construct similar tests for themselves based on the actual vocabularies, translations, interpretations, and composition which their classes have covered.

Other widely used foreign language tests with which teachers may desire further acquaintance include:

"American Council Alpha French Test," by V. A. C. Henmon, Algernon Coleman, and Marion R. Trabue. World Book Co.

"American Council Alpha German Test," by V. A. C. Henmon, B. Q. Morgan, C. M. Purin, Stella M. Hinz, and Elizabeth Rossberg. World Book Co.

"American Council Alpha Spanish Test," by Milton A. Buchanan, J. P. W. Crawford, Hayward Keniston, and V. A. C. Henmon. World Book Co.

"American Council Beta French Test," by Jacob Greenberg and Ben D. Wood. World Book Co.

"American Council Beta Spanish Test," by Frank Calcott, Robert H. Williams, and Ben D. Wood. World Book Co.

"American Council French Grammar Test," by Frederic D. Cheydleur. World Book Co.

"Orleans-Solomon Latin Prognosis Test," by Jacob S. Orleans and Michael Solomon. World Book Co.

CHAPTER XIII

ELECTIVE MATHEMATICS AND SCIENCE

Neither non-arithmetical mathematics, as such, nor specialized applications of arithmetic to business, engineering, or science has any justifiable place in the core-curriculum of the junior high school. This rather dogmatic assertion has three justifications: (1) the studies of Rugg and Clark,[1] Wilson,[2] Wise,[3] and others who have shown conclusively that manipulative control of such mathematics is not required by a majority of people; (2) most pupils of low abstract intelligence and many of normal and even superior intelligence fail in prescribed junior high school mathematics; and (3) the studies by Chase[4] have shown that very little mathematical knowledge or skill is retained even by successful pupils after they have discontinued the subject.

It has been almost unfortunate that some of the most progressive curriculum modifications undertaken at the junior high school level should have been carried on by educators who have vested interests in compulsory mathematics and who have been, therefore, perhaps unconsciously, inhibited from examining their fundamental assumption that mathematics is and ought to be prescribed for all junior high school pupils of whatever level of intelligence or major interests.

[1] Cf. Rugg, Harold O., and Clark, John R.: "Scientific Method in the Reorganization of Ninth Grade Mathematics," University of Chicago Press, 1921.

[2] Wilson, G. M.: "Social and Business Uses of Arithmetic," Teachers College Contributions to Education, No. 100.

[3] Cf. Wise, Carl T.: "A Study of Arithmetical Problems Arising in Various Occupations." *Elementary School Journal*, Oct., 1919.

[4] Cf. Chase, Sara: "Waste in Arithmetic." *Teachers College Record*, September, 1917, pp. 360–370.

Their own studies and arguments do not in fact validate their assumptions.

Universal Computational Needs Are Provided for in the Core-Curriculum. The suggested core-curriculum in the present volume is based on the assumption that, during the first six grades of the elementary school curriculum, arithmetic has been limited to giving the pupils through application those arithmetical processes which are within their experience and comprehension. A control over the fundamental operations with integers, the generally used common fractions and decimals, the immediate denominate number facts, and the simplest applications of percentage may be assumed. Provision is suggested in the junior high school for compulsory remedial or corrective instruction for those who are found at any time not to have such control (Chapter X).

In the suggested core-curriculum there is provision for further constructive teaching in science which involves such practice in mathematical thinking and applications as is likely to be significant for a majority of pupils. Such instruction does not presume to "fix" mathematical skills or knowledges beyond the point of general familiarity with processes and concepts and the readiness to think in terms of quantity, graphs, and functions.

Elective Opportunities Permit All Pupils Who Desire More Mathematics Training to Get It. All pupils should be permitted, and many pupils should be advised, to continue the study of mathematics as an elective in one or more years of their junior high school careers. Some of these pupils will desire to study the commercial application of mathematics in conjunction with their major commercial electives; others will desire to study shop or engineering applications in conjunction with their industrial arts electives.

A considerable number will, however, find real thrills in mathematical theory and "stunts." Snedden considers such a "case group" as follows:

Take another fairly well defined "case group," consisting, usually, in a school of this size (1,600 pupils), of from 50 to 150 boys who combine these two assets—they are from prosperous, often cultivated homes; and they are substantially above the average in intelligence. A very large proportion will have the time, the means, and the desire to enter higher institutions of learning. They will not need to become self-supporting until some time after attaining their majority. In later life they will probably work so hard as seriously to impair their health. Practically all will become good, conforming citizens, and many will develop large potentialities for dynamic or initiatory civic activities, if sufficient will and understanding thereto can be developed.

What mathematical courses should be planned for, and recommended to, these boys? Probably either the "straight" algebra and geometry or a thorough stiff composite course. . . . While no one can predict that all these boys will later take up higher studies or vocations requiring such mathematics, they can at least be advised that such election will be a good gamble, even after the colleges shall have ceased worshipping the idols of obsolete psychological traditions in their admission requirements.[1]

If such a policy were followed the mathematics teachers would have fewer pupils, to be sure, but these pupils would be interested, able, and enthusiastic. With such groups it would be possible to encourage individuals or groups of individuals to work independently not only to master the processes of algebra and the demonstrations of simpler geometrical proportions, but to adventure "on their own" into constructive geometry, simple surveying and astronomical and geo-

[1] Snedden, David: "Mathematics in Junior High Schools," *School and Society*, vol. 14, no. 366, Saturday, Dec. 31, 1921, pp. 625–626.

graphical problems, the geometry of design and architecture and crystallization, the history of mathematics, the mathematics of war, of road-building, of economics, and of educational statistics. They would read widely and take pride in their mathematical vocabularies.

In several of the junior high school mathematics series[1] and in occasional courses of study[2] that have appeared in recent years, such topics as those listed above are included. In the actual class procedure, however, much of the time of pupils and teachers is required to review endlessly the "fundamentals" in order to keep the children at the absurdly high level of proficiency which custom has set up as "standard." Furthermore, many of the children who have been compelled to study mathematics have little inclination or specific ability for "pure" or applied mathematics. The tradition of uniform assignments followed by lesson-hearing and testing has been too strong to overcome, and consequently, little joyous adventuring and discovery are found in most junior high school mathematics classes.

Elective Mathematics Would Become a Series of Joyous Adventures. If mathematics teachers could have elective groups in mathematics and if they could be freed from responsibility for the pupils' proficiency in abstract arithmetical

[1] Cf. Barber, Harry C.: "Teaching Junior High School Mathematics," Houghton, Mifflin Co., 1927.

Bonser, F. G., Smith, J. H., and Pickell, F. G.: "Junior High School Mathematics," Mentzner-Bush Co.

Drushel, A. J., and Withers, J. W.: "Junior High School Mathematics," Lyons & Carnahan Co.

Schorling, R., and Clark, J. R.: "Modern Mathematics," World Book Co.

Thorndike, E. L.: "Junior High School Mathematics," Rand-McNally Co.

Vosburgh, W. L., Gentleman, F. W., and Hassler, J. O.: "Junior High School Mathematics," The Macmillan Co.

Wentworth, Smith, and Brown: "Junior High School Mathematics," Ginn & Co.

[2] Cf. St. Louis, Missouri, Course of Study in Mathematics. Denver, Colorado, Course of Study in Mathematics.

skills (except so far as it is needed in the mathematics courses themselves), pupils would respond joyfully to assignments set out as a series of challenges. Such assignment sheets might be somewhat similar to Dalton plan assignments—but it would be unnecessary and undesirable for all pupils to have the same challenge sheets. Creation and discovery need audiences which can be surprised, shown, and which will in turn approve and admire the discoveries. If all go out and discover the same thing, then telling or explaining to the class what one has discovered becomes a hollow farce—it is simply the old recitation over again.

Neither ought the challenge sheets to assume that the quests will be fulfilled in the same length of time. It may be hoped that pupils may become so interested on one voyage of discovery that they will desire to follow out new leads. Such enthusiasms should be encouraged, and should result in supplementary challenge sheets which would be worked out by teacher and pupils together.

The challenge may be a single problem; as such it may lack essential data which could be obtained only by consulting reference books or by experiment or by approximation and correction. It might deal with the stresses and strains of a cantilever bridge, giving enough of the puzzle to whet the curiosity and some suggestions regarding sources of information and procedure. It might direct attention to the importance of the zero in our system of numeration. It might deal with "dead reckoning" and course corrections which appear so regularly in accounts of aeronautical feats.

The need and use of such mathematical concepts and processes as the following will develop and they will be isolated by the instructor for practice in class:

(1) The formula as a concise language, a shorthand rule

for computation, a representation of dependence of one quantity on another;

(2) The graph as a method of representing the relationship and so of representing the interdependence of two numbers which change together;

(3) Concepts of statistical treatment—the chance distribution of items;

(4) The use of logarithms and the slide-rule as shorthand computation, with some understanding of the construction of tables and rules.

(5) The solution of problems that contain data not necessary for its solution. Many such data are included in problems for purposes of motivation, as Miss Sanford has shown.[1] In life situations, however, engineers, educational statisticians, accountants, and others who work with mathematics, generally are called upon to select the data which are essential to their problems and to discard the rest.

(6) The challenge of many problems where essential data are not given. Such problems may call for a search for necessary data in books of reference or by investigation; they may require a solution with one quantity designated by a literal expression, or such problems may be impossible of solution.

Daily has tried out high school pupils with tests which include such problems as are comprehended by paragraphs (5) and (6) above. One form of his tests is given here:

1. A piece of iron 52 inches long is to be cut into two parts so that one part is 4 inches longer than the other. What will be the length of each part?

2. A stenographer spends one-third of her monthly income for room and board, one-sixth for clothes, and one-fourth for other expenses. She saves $30. What is her income?

3. A bus can carry 10 more passengers than an auto. To ac-

[1] Sanford, Vera: "Extraneous Details," *Mathematics Teacher*, vol. 21, no. 2, February, 1928, pp. 83–91.

commodate all the passengers arriving on a certain train 7 autos and 2 buses will be needed. How many passengers are arriving?

4. Water flowing through an inlet pipe can fill a tank in 30 minutes. It can be emptied by an outlet pipe in 40 minutes. If the tank is empty and both pipes are opened, how long will it take to fill the tank?

5. A certain recipe for fruit punch calls for twice as many oranges as lemons, and proportional amounts of sugar, grape juice and water. If oranges are 35 cents a dozen and lemons are 25 cents a dozen, how many dozen of each must be used in making a punch at a total cost of $4.75?

6. The members of a history class of fifty pupils have agreed each to buy a supplementary book. A book company is advertising a new book which has been adopted by many schools and which is well liked. The selling price is $2. It is printed on good paper, is well bound and contains 300 pages of reading matter. The principal can secure the books for the class for $\frac{4}{5}$ of the selling price, if he buys a large number of them. How much should each pupil pay for his book?[1]

In such an elective class, there will doubtless be a considerable number who have definite prevocational engineering interests. They should be stimulated to read books and magazines which deal with electrical, mechanical, aeronautical, and other engineering problems. The instructor might well set aside certain conference periods, during class time if possible, when these pupils could ask questions of him or talk over with him the solutions of problems which are indicated in their professional literature. Some of these pupils may find pleasure in solving problems from such vocational mathematics books as are on the market, e. g., the Keal and Leonard series of vocational mathematics.[2]

[1] Daily, Benjamin W.: "The Ability of High School Pupils to Select Essential Data in Solving Problems." Teachers College, Columbia University Contributions to Education, No. 190, 1925.

[2] Cf. Keal, H. M., and Leonard, C. J.: "Mathematics for Shop and Drawing Students," John Wiley & Sons, 1921.

Pupils who have completed such a course will have a preparation and drive for mathematics which even the stupid conventional high school algebra and geometry will be unable to abort. And the true mathematician who gives such a course will have had a glorious experience.

Too frequently, mathematics teachers themselves have had their training and found their satisfying success in relatively meaningless, formal, and symbolic processes. They know algebraic processes, demonstrative geometry, and trigonometric manipulations, but they have frequently never given a thought to the uses of mathematics by educational statisticians or engineers. High schools and colleges have demanded formal mathematics in the faith that mathematics would give some power or that mathematics is important in life. Seldom has this faith been questioned. As a result few mathematics teachers are capable of teaching any other mathematics than the same formal symbolism that they have themselves learned with satisfaction; to them mathematics, other than arithmetic, means almost nothing applicable to any other life-activities except abstract intellectual play.

Natural Sciences. It is the function of *elective* courses in science to encourage curiosity, a spirit of inquiry, and painstaking technics in an enthusiastic group of children. These self-selected pupils are sufficiently attracted by the materials and methods of the natural sciences to choose to study them in preference to the alternatives offered. In such pupils the teacher seeks "to create an intelligence pregnant with belief in the possibility of the direction of human affairs by itself." [1] The teacher seeks to emancipate the young people from rules of thumb and from docility and routine such as are engendered by rule of thumb procedures.

[1] Dewey, John: "Democracy and Education," Macmillan Co., 1922, p. 263.

Progress in natural science and in its applications to social institutions has been much more rapid and significant for world betterment than have been the developments in social science and its applications to government, education, and religion. This remarkable ever-accelerating scientific progress of the last four or five centuries has been the product of a relatively small number of superior minds in whom curiosity and the spirit of inquiry and painstaking technics were happily blended.

Elective Science Selects and Encourages Young Scientists. Elective science should attract the relatively few rarer spirits who become curious to discover, to select, to classify, and to be informed in order to satisfy such curiosities. It is a relatively orderly "scientific" science. Its mission is to increase the number of scientific minds in the community; to do this it furnishes for each selected pupil guided practice in the uses of scientific technics and in the accumulation of scientific knowledge, and it increases his familiarity with scientific sources.[1]

An elective science course should in no wise neglect the appreciational aspects of its fields; it should promote more intellectual appreciations, on the one hand, and more active, manipulative, creative appreciations, on the other. The pupils will make collections; they will classify, analyze, generalize, and apply their findings in new situations; they will visit museums, will read both intensively and extensively, will consult experts, and will prepare for class-meetings and for the school

[1] In Cattell's famous investigation of American men of science, it developed that in the environment of Massachusetts which was hospitable to scientific discovery there were almost eighty-four times as much likelihood of great scientists arising as in Mississippi where the environment was not hospitable to independent thinking along scientific lines.

Cf. Thorndike, E. L.: "Educational Psychology," vol. 2, Teachers College Bureau of Publications, 1917, pp. 222 ff.

newspaper reports on more or less original investigations or on the verification of others' discoveries. In assemblies and in science clubs such reports will be read and discussed. In short, pupils who are attracted by the science courses will be treated as young scientists; it will be assumed that they are hungry for knowledge and for adventures in discovery.

Present Pupil and Community Interests in Science Should Be Exploited. In large schools, several elective courses might be offered corresponding to such general fields as (1) geography, geology, astronomy, and meteorology, (2) biology and physiology, (3) physical sciences.[1] In six-year junior-senior high schools, such courses might properly be open to both junior and senior high school pupils. In small junior high schools, either very inclusive elective courses in general science might be offered, or one more specialized course might be given in each of three successive years or successive semesters.

Practice in Scientific Thinking Should Control. It is a part of the stated aims of several of the subjects commonly offered in both junior and senior high schools to develop in pupils the ability and the habit of thinking scientifically. The

[1] Cf. Curtis, Francis D.: "A Digest of Investigations of the Teaching of Science in the Elementary and Secondary Schools," Blakiston's Son & Co., 1926.

Of 2,154 interests mentioned by unselected children, 1,305 concern geography, 368 are biological, and 454 are classifiable as of physical science. Adult interests are shown to be very similar.

Cf. Craig, Gerald S.: "Techniques for Developing a Course of Study in Science." Chapter IV, "Evaluation of Objectives on a Basis of Children's Questions in Science," Teachers College Contributions to Education, No. 276.

The highest five science classifications in the order of their frequency in answering children's questions, found by Craig, were: The composition and importance of atmosphere; vital processes of plants and animals; distinction between stars and planets; species have survived because they have made adaptations to their environments; and the production, manifestations, and properties of electricity.

Cf. Pollack, C. A.: "Children's Interests as a Basis of What to Teach in General Science," *Educational Research Bulletin*, College of Education, Ohio State University, vol. 3, no. 1, 1924.

very nature of the courses, however, often involves mere recitation of memorized "facts." Such memorization makes reflective thinking frequently unwelcome to the teacher and sometimes endangers the pupil's chances of "passing" the course. For reflective thinking implies tentative solutions, good "guesses," approximations, and estimates. The moment a "right" answer is obtainable from a book, it is more convenient, more economical, and more certain and safe, to find the *answer* in a book, than it would be to try to think out an answer for oneself.[1]

Elective science should, however, set itself, as a primary objective, the promotion of scientific thinking—at least in connection with the data with which it deals. It follows, therefore, that the problems raised in class should not be directly answerable by consulting a text-book or even a reference book. Many data that bear on the questions may be discoverable by consulting authorities. Many solutions of similar problems may be available. But the data for the pupil's own problem should require original investigation, experimentation, collation, tabulation, and graphic representation. They must require the delimitation and statement of a problem, the elucidation of one or more hypotheses after considering the possible explanations or solutions—formulating them, elaborating them, and eliminating some of them. They must include the testing out of the hypotheses to see if they hold for all similar situations.

[1] *Antioch Notes*, October 1, 1927.

It takes a very unusual mind to undertake the analysis of the obvious. Why does the sun rise? Why does water boil? Why are leaves green? Why do two and two always make four?

Such questions, which seem to ordinary men too ridiculous for consideration, hold the secrets of the world. If, through education, we can stimulate in young minds the habit of wonder and of trying to understand obvious occurrences we can start a new era of civilization.

It is not easy to induce pupils to embark on such problems; it is not without difficulty that meaningful problems involving such thinking are found, at all. This is true, to a degree, because teachers and pupils do not distinguish between *their own certainty* of subject-matter and *intellectual certainty.* "We are made, so to speak, for belief; credulity is natural." [1] If the book or the teacher or the janitor or a parent says that a thing is true or gives a plausible explanation, we feel sure that it is true. In general, we dislike suspense and hesitation. The executive "type" of mind asserts; it acts on what seems probably right. The scientific "type" of mind, the possession of the very few, must learn to challenge all "solutions" which familiarity, common repute, congeniality, or "authority" tend to make "final." "Science," said Descartes, "is born of doubting."

Some Feasible Suggestive Problems. 1. *What heating and ventilating system would best serve our school-building?*

If pupils are seated in a building ventilated by the "plenum" system, the teacher might assign to the class or to a selected group of pupils or even to one individual pupil a study of all other methods of ventilating school-buildings and similar structures. Such methods as the unit-plan, the gravity system, direct ventilation by the use of windows might be read about, observed, and compared. One or more of the pupils might then undertake to defend the thesis that the "plenum system" is, or that some other system would be, the most satisfactory system for ventilating the specific school-building in which the class is working.

Here would be a scientific problem. Authorities differ; practices differ; criteria are assigned different weights; opinions are confused. The pupils would, under proper guidance, set

[1] Dewey, John: "Democracy and Education," p. 222.

up the criteria that seemed valid to them; they would analyze the practices, the measured results obtainable, the opinions and claims of supporters of the various modes. They would reach their own conclusions and present them to their entire class or to some other class, and defend them—or at least be ready to answer questions regarding them.

2. *What shrubbery and trees would be most desirable for landscaping the school grounds?*

If the school grounds have not yet been "landscaped," or if they are obviously in need of improvement, this question may challenge a group of pupils. Such a question may arise independently of immediate need, if any public building or private estate or park in the neighborhood of the school is being "improved."

A map of the school grounds is drawn and sketches are made showing the school-buildings and neighboring structures, topography, and trees and shrubbery. Books and magazines dealing with landscape architecture are read; gardeners and nurserymen are consulted. Possible planting arrangements are drawn up, and sketches are made indicating the immediate and future appearances of the school grounds, if each plan were followed. The cost, vitality, resistance to shade and to disease, the kind of soil, the demand for moisture and fertilizer, the need for expert attention, and all other factors that might affect the desirability of any planting proposed would be considered. Then the committee would be prepared to report to the class its findings and one recommended plan or several alternative plans for its criticism and suggestions.

Whether or not the project would be carried beyond this point would be a matter of general school administration. At Blewett Junior High School in 1920, the ninth grade congress received such a plan from an elective science class and, acting

in accordance with it, undertook to develop school sentiment for the beautification of the school grounds.

3. *What form of star-chart would be most helpful to a seventh grade class engaged in a study of astronomy?*

This is a socially motivated project. It may develop among a group of pupils who are interested in astronomy but who need a specific audience for which to prepare material. A study and comparison of the forms of star-charts included in the science text-books, in popular books on astronomy, and in standard reference books may be made. Presumably several differing opinions will develop. Then the need for criteria will be felt; tests based on these criteria may be drawn up. Permission may be obtained from teachers of seventh grade science for the group to teach the constellations or some other aspect of astronomy to the classes by means of their charts and to test the classes to see what is gained when the various forms of charts are used. From this, a tentative conclusion regarding the values of each kind of chart for the purpose may be drawn by the committee and reported to the class. If the job justifies the honor, the committee might appear before the science teachers of the school and explain their method and conclusions.

Consecutive Learning Units in Science May Have Important Exploratory Values. In the elective course in science there should be included some carefully planned consecutive units of work involving laboratory experimentation. By such procedures, it is to be hoped that there may be achieved at least two desirable outcomes which might be missed in the more informal experiences described on the preceding pages.

One outcome should be the decision on the part of the pupil to elect or avoid further courses in laboratory science in the light of his success in these preliminary formal science units.

The second outcome should be a participatory appreciation of the careful, unhurried, persistent, and reflective behavior by which the true scientist explores and classifies and evaluates and re-tests his data as a basis for his conclusions. Few persons are equipped with the kind or degree of intelligence and temper to become creative scientists. Self-exploratory experiences should serve to encourage those who have the peculiar talents to undertake the further training. Most of the elective science pupils will grow in appreciation of scientific method and accuracy, though they may wisely decide not to elect further courses in experimental science for themselves.

In "Everyday Problems in Science," Pieper and Beauchamp[1] have developed a general science course consisting of seventeen units of work conforming to the teaching procedures advocated by Morrison in his "Practice of Teaching in the Secondary School."[2] The instruction technic recommended by the authors is shown in the scheme on page 320.

While all of the units include exercises which involve some true experimentation, Unit VIII, "The Nature and Control of Fire," is abstracted, with the consent of the authors, from the "Teacher's Guidebook," because it lends itself peculiarly well to experimentation. The objectives of the unit are: (1) knowledge of the subject-matter; (2) the discovery and development of study attitudes, habits, and skills; (3) attitudes toward and adaptation to the environment; and (4) the development of wholesome interests.

By means of preliminary exercises the importance of fire is stressed, the previous experiences of the pupils are recalled, and pupils' questions are stimulated for which only partial

[1] Pieper, Charles J., and Beauchamp, Wilbur L.: "Everyday Problems in Science," Scott, Foresman & Co., 1927.

[2] Morrison, Henry C.: "The Practice of Teaching in the Secondary School," The University of Chicago Press, 1926.

STEPS IN THE LEARNING PROCESS	STEPS IN THE CLASSROOM TECHNIC	STUDENT ACTIVITY INVOLVED	METHODS OF TESTING RESULTS
Stimulus or Motivation or Seeing the Problem	Exploration (1)* or Pre-test Review previous work Recall experiences pertinent to Unit Preview (1) Teacher's sketch of Unit—15 to 20 minute talk with simple demonstrations	Discussion and written work Listening, observing, note-taking, or Reading preview in text	Questions and exercises Written or oral composition on preview
Study (directed) or Reflection or Solving the Problem	Individual or group study (5–10)	Reading Extensive Intensive Experimentation Field-trips Drawing Observation of Demonstrations Demonstration before class Responses to exercises	Oral quizzes Written quizzes Composition True-false tests Completion tests Best answer Summaries Reports on experiments Discussion before class Interpretation of new situations Self-testing exercises
Reaction or Application or Use of knowledge	Organization (1–2) Recitation (–2)	Preparation of outline, summary, or syllabus of Unit Oral and written recitation	(The activity is itself the test) (The activity is the test) [1]

answers are available before the text has been read. This is followed by the "Story of the Unit" told by the teacher with simple demonstrations, covering the discovery and use of fire by man, his dependence upon it, combustible and incombustible materials, fuels, requirements for burning, and characteristics of fire.

* The numbers in parentheses following steps in classroom technic suggest the approximate number of periods to be given to each step.

[1] Pieper, Charles J. and Beauchamp, Wilbur L.: "Teacher's Guidebook for Everyday Problems in Science." Scott, Foresman and Company, 1927, p. 11.

The first problem is stated: How does a fire get air? The pupils now perform an experiment involving a small box and punk to discover "How fresh air reaches the flame," followed by three exercises to show: (1) how a fire supplies its own fresh air; (2) the arrangement of drafts and dampers in a stove, and (3) how an oil-stove should be used. Next the pupils perform an experiment to discover how the Bunsen burner is constructed and how it operates. This, too, is then followed by two exercises encouraging reflection.

Problem 2: What does a fire take out of air? leads to experiments involving the preparation of oxygen, and the determination of the percentage of oxygen in the air, and to exercises involving speculation and reflection. Then follow Problem 3: What is flame? Problem 4: What becomes of materials when they burn? Problem 5: What are our common fuels? Problem 6: How can destructive fires be prevented? and Problem 7: How are fires "put out"? Each problem is developed by means of experiments and exercises and discussions. According to the class procedures urged by the authors, pupils read twice through the text discussion of the problem, once rapidly for a bird's-eye view, and once slowly for details. Each one performs the experiments for himself and writes out the exercises. Each individual pupil is thus encouraged to think inductively and thus to assimilate as much of the information and significant relationship as possible. On this control he is tested until the instructor is satisfied.

The pupil then lays aside all books and prepares a topical or statement outline of the unit as a means to encourage practice in organization of knowledge. Only after all of these activities are completed, do the pupils ever recite.

Such procedures, while they must be very heavy for unselected pupils, are surely challenging and valuable for pupils

who find self-fulfillment in elective science. Pupils who complete the units successfully have a report of a truly scientific experience organized anew by themselves. In a sense, then, they are true scientific pioneers.

Elective Science Deals with Superior Thought Processes for Superior Minds. The school is dealing here, it must be asserted, with a relatively few intellectual pupils who elect science. Not every pupil can achieve a truly scientific attitude. But it is of the utmost importance to society that the junior high school should select those, or at least some of those, who have the capacity and the inclination, and that it should give them the encouragement and practice that may increase their scientific abilities and tendencies.

Briggs has reported a simple test by which he believes that some of these inquiring spirits could be discovered:

Problem. To determine what sorts of naïve questions people ask when confronted with a novel situation, for the light such information may shed upon planning economical instruction.

Method. During a period of about ten years, the investigator noted the questions or reactions of a highly selected group of individuals when confronted with an unfamiliar object, as a unique back collar-button, a circular slide-rule, or a "Lock-Tite" tobacco pouch.

Findings. A hierarchy of questions was revealed which are here given in order of frequency with which they were asked and in the reverse order of their importance: (1) "What is it?" or "What is it for?" (2) "How does it work?" or "How is it used?" (3) "Can I make it work?" (4) "What makes it work?" or "What is the principle involved?" (5) "What extensions of the principle are possible?"

The investigator believes the causes of the questions both as to number and kind to be (1) "mental alertness, a desire to know, the annoyance of being ignorant"; (2) a "perceived relation between the object of the experiment and oneself";

(3) interest in an active phenomenon. The investigator believes, moreover, that questioning should be encouraged at all levels of the "hierarchy" by providing satisfying answers to those questions already raised.[1]

The supreme and controlling aim of the elective science course in the junior high school—the ultimate objective to which all scientific thinking should contribute—is to help a group of superior intellectual boys and girls to become citizens of the intelligent world. It should help them to an intellectual outlook—and an emotional self-possession—which are independent of space and time and of narrow nationalistic loyalties and jealousies. It should promote respect for the achievements of men and of all races and creeds and times, and it should dignify poise and patience in a world of emotional stress and puny competitions.[2]

School Practices May Point the Way toward the Ultimate Contributions of Science. Every scientific discovery or development carries the potentialities of many new problems.

[1] Briggs, Thomas H.: "Naïve Questions and Science Teaching." *School Science and Mathematics*, vol. 23, Jan., 1923, pp. 34–40. Reprinted in "Department of Superintendence Fifth Yearbook," p. 161.

[2] Russell, Bertrand: "Free Thought and Official Propaganda," B. W. Huebsch & Co., pp. 16–19.

"We have had in recent years a brilliant example of the scientific temper of mind in the theory of relativity and its reception by the world. Einstein, a German-Swiss-Jew pacifist, was appointed to a research professorship by the German Government in the early days of the war; his predictions were verified by an English expedition which observed the eclipse of 1919, very soon after the armistice. His theory upset the whole theoretical framework of traditional physics; it is almost as damaging to orthodox dynamics as Darwin was to Genesis. Yet physicists everywhere have shown complete readiness to accept his theory as soon as it appeared that the evidence was in its favor. But none of them, least of all Einstein himself, would claim that he has said the last word. He has not built a monument of infallible dogma to stand for all time. There are difficulties he cannot solve; his doctrines will have to be modified in their turn as they have modified Newton's. This critical undogmatic receptiveness is the true attitude of science.

"What would have happened if Einstein had advanced something equally new in the sphere of religion or politics? English people would have found ele-

Once the telegraph is established—then the telephone, wireless telegraph, the radio, the transmission of photographs by telegraph, and television can be conceived and perfected. But people live differently when once these developments have taken place. What they buy, how they spend their leisure, what they say and wear, to what degree they are homogeneous in knowledges, interests, and ideas—in these, and in many other respects, a new world is ushered in.

Elective science classes in the junior high school will not neglect the opportunity of encouraging the pupils to engage in the romantic high grade play activity of projecting a world which science is progressively remaking. What a world! Death from disease reduced to a minimum; a work-day of six hours or less; poverty unknown; airplanes carrying passengers, mail, and express between distant cities and even between countries. What of war? What of nationalism? What of the respect paid to physical prowess and courage? What of education?

Every mentally alert pupil can be his own "utopographer" (to use Well's term). The attraction that Jules Verne and his many imitators have for junior high school pupils indicates the appeal that the constructive imagination has for them. And what a heaven it would be for our stodgy, unimaginative, self-satisfied generation, if hundreds and thousands of

ments of Prussianism in his theory; anti-Semites would have regarded it as a Zionist plot; nationalists in all countries would have found it tainted with lily-livered pacifism, and proclaimed it a mere dodge for escaping military service. All the old-fashioned professors would have approached Scotland Yard to get the importation of his writings prohibited. Teachers favorable to him would have been dismissed. He, meantime, would have captured the government of some backward country, where it would have become illegal to teach anything except his doctrine, which would have grown into a mysterious dogma not understood by anybody. Ultimately the truth or falsehood of his doctrine would be decided on the battlefield, without the collection of any fresh evidence for or against it."[1]

our adolescents could find spiritual and intellectual satisfaction in constructing a new world!

Junior High School Science Too Seldom Challenges Youth. But science must challenge our youth if it is to be an effective educational instrument. Up to date it has only occasionally done this. Are educators properly concerned by the actual net decrease in elections of high school science? With secondary school enrolments increasing at a truly astounding rate, science actually lost six per cent of its enrollment from 1910 to 1915; 1910 showed a marked decrease from 1900; and 1920 showed a further net decrease that was somewhat offset by gains in general science and chemistry.[1]

It is not more facts, but more romance, that pupils should get from elective science. The facts will be mastered, but the facts that challenge John will not be identical with those which appeal to Mary or Bob. Many parents must be impatient that boys who understand their gas-engines, their radios, their power-boats and sailing-craft, who breed their homing-pigeons or rabbits effectively, who spend eager hours with their *Popular Mechanics*, their *Books of Popular Science*, and even with the *Encyclopædia Britannica*, are at the same time passively enduring, perhaps actually failing, school instruction in general science or physics.

No course that is identical for all pupils—not even for pupils who elect general science or biology—is likely to stimulate creative thinking or enthusiastic participation among all students. The apathy which is typical of science classes in which all pupils perform the same activities is due to at least two factors: (1) Science interests, if deep enough to be significant, cannot be turned on and off like a water-faucet; they

[1] Cf. Caldwell, O. W.: "Preparation of the General Science Teacher," *School Science and Mathematics*, vol. 23, no. 4, April, 1923 (quoting Miss Bailey's article in University of California High School Journal, July, 1922).

must be followed to an outcome and on occasion returned to; (2) When all pupils do the same things there is no legitimate audience which can be impressed by the accomplishments, for the class cannot be challenged by hearing re-citations of what they all know and descriptions of what they have all done. As De Kruiff [1] points out, the creative investigator must have an audience.

At Blewett Junior High School elective project courses in general science and in biology were taught from 1917 to 1920 by Mr. Hosek. In these courses committees of pupils set themselves to a study of topics which might take a month or a semester or a year to complete. One committee investigated cereals, for example, one pupil taking maize, another wheat, another rye, and so on. Each one sought to discover the food qualities of the cereal, its history, its geographic distribution; the search for new breeds; the relation between climate and the particular cereal; the diseases that attack it; the process of making flour and the many by-products; the feeding of animals; the economic significance of the grain to particular sections of the country; the probable future area for supply of the world's demand, and so on. Great numbers of carefully made charts and diagrams permitted the pupils to organize their knowledge in such a way that it could be presented to the rest of the class and sometimes to other groups, and even to assemblies. Similarly, some pupils who were mechanically inclined took their projects mainly in the field of physics, sometimes in photography, chemistry, geology, astronomy, and medicine. The more general concepts of science, such as the Mendelian Law, the nature of acids, bases, and salts, osmotic pressure, electrolysis, and many others introduced themselves into these larger correlation units.

[1] Cf. De Kruiff, Paul: "Microbe Hunters."

Other topics which committees elsewhere have found interesting were: (1) heating the home; (2) lighting the home; (3) feeding the family; (4) clothing the family; (5) plumbing in the house; (6) foretelling the weather; (7) protecting the water-supply; (8) food inspection; (9) what is dust? and so on. The possible list extends itself indefinitely when once the project is undertaken. "The world is so full of a number of things, I'm sure we should all be as happy as kings." [1]

There can be no doubt but that the future progress and safety of humanity is in the hands of the scientists. It is a primary duty of educators, then, to encourage scientifically inclined youths to prepare themselves to participate in the progress of science either by contributing to it or by forming an intelligent body of sympathetic critics by which it may be tested out and, if worthy, supported. If educators appreciate the supreme importance of this task, they will take vigorous steps to provide opportunities for pupils to acquire scientific methods and attitudes in the ways they will be most likely to use them.

[1] Cf. Nichols, M. Louise: "Are Changes in the Curriculum Needed?" *School and Society*, vol. 24, no. 616, Oct. 16, 1926.

CHAPTER XIV

ELECTIVE OPPORTUNITIES IN EXPRESSION

Some vital and pleasing contacts with music and art and literary activities in which boys and girls and men and women actually participate either as producers or appreciators, or as both, are assured to all pupils through the core-curriculum. As a result of such opportunities alert teachers and parents may recognize in some pupils the appearance of compelling interests in these fields. More often the pupils themselves will discover their own interests; some, at least, will find in the milieu of art or music or writing a medium of whole-souled expression.

If the school is awake to its opportunities to save these precious ambitions and to direct the energies that they stimulate, these pupils quickly find, in some "glee" or orchestral or art or debaters' or journalists' or story-writers' or poets' club, a chance to give expression to the new interests which they have discovered.

The term "new interest" is used here because, so far as the school is aware, the drives that appear in the junior high school children are *new*. And yet it has been pointed out recently—most notably by Hughes Mearns—that many of the children, whose interests and abilities in creative writing have been discovered during the junior and senior high school years, have been composing poems or stories, more or less secretly, throughout their childhood. Too often these aspirations have been crushed out by the school and by adults in their demands for uniformity and docility.

Says Mearns:

Youth, as youth, does not know enough to comprehend itself. And it does not want to know; it has been trained to desire the things of maturity, its ideal is to be manly, womanly, to grow up. It stretches itself, adopts the swagger and trick of age, seeks passionately to get out of the guilty rôle of childhood; it denies itself, disclaims its own virtues, discounts its own worth, and the reason is to be found in the overwhelming social pressure brought against childhood and in favor of adulthood. Formal education is this pressure organized, but the world at large is almost as formidable. We sneer at childhood and make most of our jokes at its expense; its will is obstinacy, its indignation is bad temper, its artistry is idling, its poetry is silliness, its enthusiasm is noise, even its passion is only puppy-love. We have an evil name for all of its natural characteristics; we praise it only when it apes our own. No wonder, then, that youth does not rise to its own defense but agrees with its adversary quickly.

Youth, of course, is quite able to give a good account of itself if it had an unprejudiced hearing, but we do not offer it much of a chance. The first truthful word, and all the immediate social forces are in arms, the charge being anything from disrespect and vulgarity to blasphemy. Repartée is resented as "talking back," or if cleverer than our own, as impertinence. Questions whose promptings are in the best spirit of scientific inquiry are either not answered or they are parried with evasions or, from the point of view of youth, with lies. So with questions whose fine urge is the search of economic truth, religious truth, moral truth, for explanations of our mysterious and perilous physical and mental make-up.

. . . . . .

When they write for me, these who are "poor in English," I do not "correct" their papers. I figure that they have had enough of that ritual in the past, and obviously it has not led to grace. Instead, I look for the idea, thought, picture, feeling, argument which they are seeking to convey, and whatever it is, I try to admire it. And usually I can admire it, for, a strange

thing at which I have ever ceased to wonder, the "poor in English" have often the most alluring things to say. As a rule they are unconventional in their thinking, and often they have a natural gift of invention and an instinctive feeling for art values. Perhaps it is because of their originality of mind that their earliest teachers, in their proselytizing zeal for conformity, have overwhelmed them with "corrections;" and so these unique youths would learn to scuttle out of sight, thus losing all chance of training. Or it might be that this loss of training was their real gain. Blessed are the poor in English, I am often constrained to say, for they shall see with their own eyes.[1]

Progressive Junior High Schools Offer Many Opportunities for Expression. For these pupils, clubs and allotments provide chances to come together with sympathetic teachers of creative art or music or of oral and written expression or reading. There is peculiar need of these informal, if brief, opportunities for expressive activities. Gifted children too seldom choose as an elective the fields of expression, even if such electives are available. Tradition and stupid school regulations too frequently send these children with precious minds —minds which are fitted by nature for creation and expression of thoughts and feelings—into mathematics and foreign languages to "do exercises" and memorize processes and conjugations. Schools and parents have a self-satisfied, self-righteous attitude about their stupidity which is appalling.

But schools are what schools are and school-teacher attitudes are what they are. Parents are what parents are and parental aspirations and ambitions and conformities are what they are. The junior high schools must, therefore, keep as many informal opportunities as possible for artistically creative spirits to gather together in small groups. Each such

[1] Mearns, Hughes: "Creative Power." Doubleday, Doran Company, 1929.

group should be guided and encouraged by a teacher who is interested and who is flexible enough to be himself led by little children.

In six year schools, elective opportunities in art and music and creative writing might well be open to pupils of junior and senior high schools. Interest and specific abilities tend to level "age and grade placements." Seventh grade violinists, color experts, and poets are likely to be quite as competent as those of the twelfth grade. In large junior high schools, the electives are limited only by the number of pupils who will elect them, and, far more important, by the number of truly creative *and* tolerant spirits in their faculties. In small junior high schools, electives are, of course, limited in number and scope; in such schools, more general electives are necessary, e. g., an elective in music, one in art, and one in creative writing. Within these classes, groups or individuals can then specialize in one aspect or another of the field of election.

Electives in Art Education. The core-curriculum provisions for appreciation comprehend the school's effort to establish in some degree for all boys and girls the habits and readinesses of *looking for beauty* and of striving to enhance the beauty of environment of daily life. *Elective art* courses seek to discover and train gifted and peculiarly interested pupils in the pursuit of the constructive, the decorative, and the graphic arts for the good of each individual pupil and of society as a whole. It would promote a reasonably high degree of efficiency, and the joy in life that such efficiency assures.

All elective art courses should be directly related to one or more of the following applications: (1) the personal life of the pupil—his dress, his room, his home and garden; (2) the home and other extra-school situations—the interior decoration of porches, living-rooms, dining-rooms, and club-rooms,

the architectural fitness and beauty of homes and public buildings and the landscape architecture of their grounds; (3) the natural beauty of fields and woods and sky and sea and horizon; (4) the preservation and improvement of the beauty of the school-building and grounds and a responsibility for helping other pupils and school visitors to find pleasure and profit in the school's beauty, and (5) the imaginative, creative activities of those introspective spirits who obtain peculiar satisfactions in inventing unusual art forms—designs, pictures, and color effects.

In the first two fields come costume design and the arrangements and decorations of homes, clubs, and public buildings. Although girls are generally conscious of the desirability of good taste in personal decoration and surroundings there are also boys who are similarly interested. Among boys, however, obvious thought on these matters is almost tabooed as "effeminate." This distinction is, however, less frequent among those pupils who elect art than among the general school population. It is obviously a silly distinction. Many girls may give too much attention to artificial "beautification" of self and of environment; but most boys doubtless give too little attention to either. While the suggestions that follow are more applicable for girls than for boys—a tactful teacher would find some boys to be as truly interested as girls in a course somewhat adapted to them.

The course in costume design should include the study of figure proportion, line, color and its notation, dress accessories, such as pockets, belts, bows, buttons, collars, ties, neckpieces, ornaments, and dress styles. The history of costume should be taken up in note-book form, well illustrated and the processes of material construction and paper rendering should be studied.

In conformance with current practices of dressmakers, milliners, and tailors, pupils should design and satisfactorily make articles in cloth and other appropriate materials. Such articles might include handkerchiefs aprons, neckwear, skirts, hats, and scarfs.

The course in interior decoration should consist of notebooks containing written and sketched notes and numerous pasted clippings showing comparisons of good and poor interiors and exteriors; sketches of elevations and plans from rooms known to the pupils; i. e., their schoolroom and their own homes; drawings showing redecoration of the rooms they know; the handling and actual visual comparison of furnishings brought to the schoolroom; visits to stores and fine homes; class discussion and criticism; and, finally, actual room and home decoration with real materials, adapting the ideal treatments to the imposed conditions.[1]

(3) In the third field—*the natural beauty of fields and woods and sky and sea and the horizon*—much less has been done in the schools. And yet it is to many people of truly artistic and appreciational capacities far more satisfying than the more artificial and commercialized and "style-changing" personal and interior decoration and landscaping of grounds.

Schools do frequently bring to the attention of pupils specimens of nature—flowers, leaves, fruits, vegetables, insects, birds, and animals. These are sometimes carefully studied, observed, drawn, and painted. Line, color, and form are recorded and such technical concepts as *rhythm*, *variety*, *order*, *balance*, *principality*, *and harmony* are noted. Masterpieces of art interpreting or illustrating natural beauty are similarly

[1] Cf. "Art Education in Secondary Schools." A Report of the Commission on the Reorganization of Secondary Education appointed by the National Education Association. Jan., 1920.

studied, principally from half-tone illustrations, sometimes enlarged with a stereoptican, but also from originals and photographs, if they are available in convenient museums and libraries and galleries. These means are good so far as they go. An indoor study of outdoors is at best unsatisfactory, however. The course should be fundamentally an outdoor subject. It should involve hiking and sketching in the parks and in the country; it should occasionally meet in the evening when sunset, moon-rise, starlit skies, cloud effects, and vistas through the trees can be observed and noted and sketched next day.

(4) Socially most significant of the five fields is the fourth—*the preservation and improvement of the school-building and grounds*, and the responsibility for helping other pupils and adults of the school community to find pleasure and profit in the school's beauty. The school library, the auditorium, the principal's office and reception room, the teachers' rest-room, the lunch-room, the corridors, the lawns, shade trees, shrubbery, approaches, doorways, and even the individual classrooms become subjects for study and suggestion for the pupils in this class. They enter into the life of the school, too; they design banners and insignia, make posters, accept responsibility for stage settings for class and school plays; they give marionette shows, conduct assembly exercises, plan exhibits, and may even carry through a series of museum excursions, with preparatory lectures or written explanations, to which the school community is invited. They frequently are responsible for a small exhibit of one or two pictures at a time in a well-lighted section of the corridor where passers-by may find—may, indeed, surprise themselves into—a moment of entrancement and admiration.

(5) In the fifth aspect of elective art—*opportunities for*

imaginative creative activities—the child with peculiar art-gifts may come into his own. Such children, while not numerous, may be found more frequently than it is generally supposed among adolescents of all social, racial, and economic classes. Either as a result of inherited tendencies or by practice in compensating for some physical or social shortcoming, these children interpret their worlds in unusual ways. To them, a sunset may be more than gorgeous coloring of clouds and the sky; to one, it may be *chaos* in which personified forces run wild; to another, it may be *cosmos* ordered by a glorious divinity. To them, the city block is more than re-enforced concrete buildings and congeries of social units at work and at play; with peculiar perspective or interpretation, one may symbolize it all in the wistful humor of a colored elevator-boy; another may find in some combination of design and color an expression of his conception of the complex of noises and persons and streets and machines; a third may compose into a design for a tapestry, a quite unconventional arrangement of pushcarts and delivery-men, policemen and building superintendents, automobiles and playing children, Mediterranean features and Hebraic beards, fine ladies and worried husbandmen, gorgeous apartment-house entrances and roofs with the washing hung out to dry, such as defies literal interpretation and yet is far too precious to be ignored, much less condemned.

The Committee of the Department of Superintendence of the National Education Association in Junior High School Art of which Superintendent McAndrew of Chicago was chairman has laid out a most interesting course which the committee asserts is planned "for the slowest, most inapt kind of pupils." It "can be done by all pupils in any typical junior high school equipped with ordinary facilities and served by

the average art teacher of the present day." The quantity of material which they propose could not be covered during the junior high school years, however, without a time allotment to the subject far in excess of that now given in any junior high school.

The aims and the activities by which they might be accomplished are so stimulating and are so closely related in spirit with the position taken above (under (4)) that excerpts from this report are quoted:

Where Art Comes In.—Art instruction relates itself particularly to the general purposes of the community specified as life, liberty, happiness, common defense, and general welfare.

Life.—Our fathers considered it a self-evident truth that all men are entitled to their lives. We interpret it as meaning more than mere existence: a full, complete, well-developed life, enjoying the beauties of nature, of music, of literature, and the graphic arts.

Happiness.—We hold that the course of study in art should conduce directly to a happy life, and that the exercises throughout the course of study should give enjoyment.

Liberty.—We believe that the lessons in art should free the spirit from oppressive obsessions, that freedom, initiative, originality, governed by order, law, and beauty should be developed.

Common Defense.—We conceive it to be the duty of public schools through art cultivation to create more beautiful homes, cities, and countryside; and thus, indirectly perhaps, make the common defense more worthwhile.

General Welfare.—We hold that the refining influence of art study on the whole community brings it under this national objective.[1]

The report closes with this significant statement:

Few subjects run more risk of becoming formal than does

[1] "The Junior High School Curriculum": *Department of Superintendence Fifth Yearbook*, 1927, chap. XX.

art. The motives of children, their desire to serve, must be given constant and joyful practice.[1]

Assumptions that any school could undertake to cover such a scope of art work for all of its pupils in every grade would almost certainly assure its extreme formalization. Nor is any such degree or quantity of art instruction justifiable in view of the practices of daily life and of the richness of the other curriculum offerings.

"As a matter of fact, outside of a few vocations," says Bobbitt, "which we are not here discussing, neither men nor women do any drawing that requires skill; and there is no evident reason why they should do so. So little is it a part of their lives that it would seem absurd to them to propose that all families should keep drawing materials in their homes to use as need requires." [2]

Bobbitt himself cites ten objectives of art instruction that seem to him justifiable.

The disadvantage which attends every effort to plan systematically for meeting social needs or for organized courses in one or another aspect of expressional opportunities lies in the fact that creative expression is individualistic, experimental, and, therefore, that it does not thrive in an atmosphere of repression, exact sequences and directions, or standardized concepts of what is beautiful or "good taste." The shortcomings of most elective opportunities in expression are attributable far more to our adult unwillingness to let children develop their own technics and concepts than they are to "lack of careful planning" or to "lack of mastery of specialized standardized technics on the part of the teachers"—which defects are usually blamed for lack of success.

[1] "The Junior High School Curriculum": *Department of Superintendence Fifth Yearbook*, chap. XV, p. 358.
[2] Bobbitt, Franklin: "How to Make a Curriculum," p. 219.

The problem of education is rather to keep alive the child's creative impulses and use them in the school and home and community life. As the child draws, designs, decorates, or makes plans for the improvement of his environment his artistic play impulses are stimulated and given direction by the anticipated social approval of his fellow youths and his fellow adults. Because of his active contributions to community welfare he is recognized among his fellows and thinks of himself as one of them. Even though his somewhat unusual talents and interests tend to give him a pronounced individuality his companions do not think him "queer," and he tends not to develop as defense reactions such idiosyncrasies as often typify the youthful prodigy.

Electives in Music Education. All junior high school pupils respond enthusiastically to a broadly conceived and intelligently directed program in general music. Such a program as has been set forth in the chapter on "Appreciations" stimulates and encourages some pupils to take advantage of further opportunities that the school may offer.

All progressive junior high schools encourage the formation of glee clubs, orchestras, and bands as a part of their student activities. Occasionally provisions are made in the regular school schedule for these organizations to practice and individual pupils are encouraged to spend some of their study periods in practicing new composition or difficult parts.

The recommendations of the Music Supervisors National Conference[1] proposes merely that such scheduled electives be given more definite recognition, and that class instruction in instrumental music be provided. Not until the ninth grade does this body recommend an elective course in elementary

[1] Cf. *Bulletins* nos. 3 and 4, Music Supervisors' National Conference. Chapel Hill, North Carolina, 1925.

musical theory, melodies, and chords, or that the schools give formal recognition to the outside study of music.

Glee Clubs, Special Choruses.— These groups are indispensable agencies for the development to a point beyond that reached in general music, of students who are vocally gifted and unusually interested in singing. Several types of organization are possible, each strikes a different range of musical expression and interest, and it is consequently desirable to have all, for instance: Choruses of girls, choruses of treble-voiced boys, mixed voice choruses, four-part choruses of boys. The guidance and improvement of vocal practice can be made very effective in these special groups, and should be carefully undertaken. The music should be worthy of the best efforts of a selected group.

Class Instruction in Instrumental Music.—This includes class instruction in piano as well as in violin and all instruments of the band and symphony orchestra.

Orchestra.—This course, as to its aims and ideals, should be considered the parallel in the instrumental field of the vocal ensembles. It should use only worthy music that invites from each instrument its best and characteristic musical expression, and should consistently seek refined musical results.

Band.—The aims and processes of instruction are the same as for orchestra, and if diligently and unfalteringly pursued can be made to yield equally valuable results. In addition, the course greatly encourages the study of interesting and indispensable woodwind and brass instruments that are often almost totally neglected.

Elementary Musical Theory, Melodies, and Chords.—This course aims to develop in the student knowledge and appreciation of the main characteristics, tendencies, and relationships of tones with respect to rhythms, melody, harmony, and design; and to develop correlatively knowledge and the ability to use correctly the necessary symbols of staff notation. This latter accomplishment is understood to include ability to write correctly in all minor keys, in all common forms of measure and rhythm, and to do written melodic

dictation in measures and keys used. The method in general is the project method.

Outside Study of Music.—This course aims to provide an opportunity for students to be given school credit for study of music pursued outside of school under private instruction.[1]

The general philosophy underlying the music elective is identical with that already presented in the discussion of art electives. It might be hoped that all pupils with marked musical interests and abilities would elect special work in music. The academic traditions of the school are so strong, however, that this is not likely to happen. Because so many of these pupils will be encouraged or compelled by parents and teachers to elect foreign languages and mathematics more or less informal and very limited opportunities through clubs, broadening and finding courses and other allotments and volunteer organizations must be promoted to safeguard the child's chance to express himself in spite of the stupidity of school requirements, social inertia, and parental aspirations.

In larger schools there will frequently be a number of pupils who wish to make very serious effort in the field of music. For these pupils a music elective should not be postponed until the ninth grade nor should it be limited to musical theory. An elective in instrumental music would permit the class to organize both as a band and as an orchestra which would be in demand for assemblies, for parades, for football games, and for other public occasions. The members of such organizations find themselves accepted not only by their fellows, but by adults on the basis of their competence and their contributions. In the home, in the Sunday-school, in neighborhood gatherings, for dances, for rallies, and even as adjuncts to

[1] *Department of Superintendence Fifth Yearbook*, "The Junior High School Curriculum," pp. 319–320.

the police bands their services would be in demand. Moreover, individual members of such a class quickly become sufficiently self-confident to find pleasure in giving instruction to their younger brothers and sisters and friends. Their personalities are integrated through such self-confidence and through the admiration and respect that the world gives to them as functionally competent artists.

Electives Are Desirable in Creative Writing and Reading. In English expression and appreciation, it is not usual to set up special electives; but there can be little doubt that such opportunities are desirable. Not every child is an artist; those who are should be given a chance for mutual admiration and sympathetic criticism. Those who are not should not be "bored to death" by having the regular expression classes of the core-curriculum transmogrified into classes for artistic expression. The pupils who lack artistic enthusiasms should not have "inferiority complexes" increased by "compulsory creativeness," nor should they be permitted to dampen by their inertia and stupor the ardor of the creative spirits who will "wax and bloom" only among congenial companions. The electives in this field might be classes in journalism, in drama, in poetry, in biography, or simply a class in creative writing covering all of these aspects.

The junior high school as an institution has given recognized place to dramatics, journalism, and, to a less extent, forensics. Room must be kept in these activities so that the mass of pupils may have some opportunities to contribute. Most intensive and successful participation will, however, naturally fall to those pupils who are peculiarly gifted with interest in creative writing and oral expression. In most junior high schools, clubs are organized to promote story-telling and story-writing, dramatics, debate, public speaking, and jour-

nalism. Formal elective courses in these fields have seldom been organized in the junior high school, though the regular English course for superior pupils is sometimes enriched by one or more of these modes of expression.

Such differentiation becomes in time, if not an elective, at least a selective, opportunity. It would seem sounder administration, however, to set aside definite classes for those junior high school pupils who are equipped to express themselves most adequately in these ways.

As in the case of art and of music, artistic verbal expression should be promoted in terms of contributions to school or home or community. Pupils of outstanding ability should be encouraged to write not only for the school magazine and paper but also for the local newspaper, for *The Scholastic*, and for other magazines which may encourage youthful aspirants. Those with dramatic talent or ability as public speakers should be encouraged to participate in desirable community occasions such as festivals, pageants, and public debates. To the extent that boys and girls who have special talents and interests can use their abilities to improve the welfare of their school or extra-school groups they are safeguarded from being esteemed queer and from living the childish, cloistered life that many young geniuses affect.

> The world needs the artist, not as a being to scorn and worship by turns, but as the worker-director of its activities. It needs the artist as blacksmith, husband, and store-keeper —as teacher, priest, and statesman. Only so can it endure and fulfill its destinies.
>
> But if the artist is to be all these things, if he is to enter into the activities of the real world instead of running away from them, he must grow up. And that is the task of education: to make a man of him without killing the artist.[1]

[1] Dell, Floyd: "Were You Ever a Child?" pp. 122–123. Doubleday Doran, 1921.

CHAPTER XV

INDUSTRIAL AND HOME ARTS AND PREVOCATIONAL TRAINING

The desirable elective offerings in industrial and home arts in the junior high school form a complex and little agreed-upon group. Lack of clear agreement is not surprising because the home and industrial life of society to which the school offering corresponds is not generally clearly understood or uniformly interpreted even by our social philosophers and scientists.

We are not clear regarding the normal or desirable activities of homes or of leisure. Our prejudices govern our philosophies and sometimes even blind us to trends and conditions which are inescapable. We seek to make distinctions between play and work that in fact have no justification, and, as a result, we seek to apologize for those pleasure-giving activities of school shops and work-rooms and of homes and leisure—as though play were not a normal desirable attribute of human life everywhere and always.[1]

Man's Interests Concern the Products and Processes of Home and Industry. It is trite to remark that we are living in an industrial age. Our schools, our homes, our vocations, our transportation, our amusements, our municipalities are industrialized and mechanized to a degree that could not have been imagined by our grandfathers.

Children and adults who live in this magic age are frequently fascinated by radios and reproducing pianos and graphophones, by plumbing fixtures and oil-burners, by build-

[1] Cf. Dewey, John: "Democracy and Education," pp. 241–242. The Macmillan Co., 1922.

ings in process of construction or destruction, by steamships, airplanes, automobiles, locomotives, tractors, and electric trains, by the processes of mass production of cigarettes, automobiles, newspapers, and canned fruits, and by many other processes and instruments contrived by man's ingenuity to meet the insatiable demands of his fellow man in peace and in war.

Very many children and adults enjoy "tinkering" with machines and materials; they want "to see how it works" or just "to see the wheels go around"; mechanical obstacles challenge them to solve the hidden problems and to experiment until success is achieved. To others, mechanical affairs are matters of general indifference; occasionally, they may take a fleeting interest in a toy locomotive or a balky gasoline engine, but generally they are glad to let some one else "putter around" with things. To a considerable number of human beings—the writer is one of them—mechanical problems are irritating; such people are offended by the "cussedness of inanimate things." To what extent such differences are innate and to what extent they are due to differences in experiences and social contacts are not important. Doubtless, the least mechanical person might gain considerable ingenuity and, perhaps, develop an abiding interest in tools and materials if he decided to do it.

Industrialism, however, has increased, if it has not produced or made necessary, a specialization of interests. One cannot give his attention to all the things that he might like to do; he must choose what seems most promising to him. As William James has said:

> . . . I am often confronted by the necessity of standing by one of my empirical selves and relinquishing the rest. Not that I would not, if I could, be both handsome and fat and

well dressed, and a great athlete, and make a million a year, be a wit, a *bon-vivant*, and a lady-killer, as well as a philosopher; a philanthropist, statesman, warrior, and African explorer, as well as a "tone-poet" and saint. But the thing is simply impossible. The millionaire's work would run counter to the saint's; the *bon-vivant* and the philanthropist would trip each other up; the philosopher and the lady-killer could not well keep house in the same tenement of clay. Such different characters may conceivably at the outset of life be alike *possible* to a man. But to make any one of them actual, the rest must more or less be suppressed.[1]

A degree of acquaintance with and proficiency in the practical arts of significance to home and community life is doubtless of universal value. In the core-curriculum suggested in this volume such general experiences are provided (Chapter IX). For the rest, industrial arts should be elective for both boys and girls and the offerings should be as varied as the size and resources of the school permit. Many pupils should find in an industrial arts elective a high-grade developmental play, a chance to construct, alter, experiment, read, and discuss their hobbies with others.

Through acquaintance with commercially produced parts which they use for the assembling of complicated machines, and through the use of the more specialized tools—the micrometer, the hydrometer, the socket-wrench, the jig, the electric motor-driven lathe, the transformer, and the rest—these pupils will frequently develop an abiding interest in industrial processes themselves. Such desirable interests will, of course, be encouraged by the teacher by obtaining opportunities for the pupils to visit factories or construction jobs and to talk with foremen and executives.

[1] James, William: "Psychology: Briefer Course," p. 186. Henry Holt & Co., 1909.

Out of such interests may result temporary or permanent choices of life-careers, but the main objective of most of the industrial arts work for both boys and girls will be general cultural education—a sympathetic understanding of and experience in the world of producers and consumers of industrial products.

Trade analysis at this stage as a basis for curriculum control has very narrow limits. The school shop is not a factory; to restrict pupils by meaningless jobs on the ground that individuals in industrial plants do only specialized work is vicious. The objectives being information and interest and experience, the boys and girls must carry processes through or, at least, far enough to apperceive the operations and instruments in relation to the whole.

It is quite possible, however, to carry to absurd lengths the antithesis of putting the school shop on a factory basis. Pupils who desire to make radios should surely be encouraged to purchase rather than to make for themselves any materials that would take undue time and effort to construct or in the making of which there would be gained little educational experience.

Warner suggests the following criteria by which to judge the value of an industrial arts project or activity:

> . . . Does it teach the boy how intelligently to buy an article such as an automobile or radio? What information and training does it give him in the intelligent use of the article after he gets it? What information concerning the occupational opportunities and requirements of industry is brought out? What specific things has he learned to do or repair? Is the activity specifically related to the boy's interests? Who proposed and planned the activity? What is its immediate value? Of what use is the project after it is completed? What correlations with other school, home, or community interests

have been developed as a result of the project? In terms of educational, economic, social, physical, and moral growth, how has the boy been benefited by his experience or contact with the activity? [1]

Activity Analyses Are a Proper Basis for Industrial and Home Arts Opportunities. Analyses of the actual interests and activities of boys and girls and young adults of the community served by the school furnish the only secure basis for determining what opportunities the school should offer. The industrial arts teacher needs to know the significance for children of the repair and construction and manipulation of washing-machines, cooking-utensils and materials, vacuum-cleaners, automobiles, plumbing fixtures, carpentry tools, radios, sewing-machines, printing-presses, electric fans, motor-boats, farm machinery, lawn-mowers, knife-sharpeners, painting and redecorating materials and instruments, sheet metal tools, typewriters, gardening implements, and the rest. The tools and materials of importance to any or all of these activities can readily, and rather inexpensively, be brought together in commodious general shops or in semi-specialized shops.

For What Types of Pupils Should Industrial Arts and Home Arts Be Adapted? Industrial arts will be elected, probably, by several types of pupils:

(1) *Those who are more or less artistically manipulative.* They need opportunity and encouragement to work successfully in completing reasonably well-finished jobs. Model houses, interior decorating projects, delicate cookery, cabinet-making, jewelry, and arts and craft work, inspire them to

[1] Warner, William E.: "Activities Around the General Industrial-Arts Laboratory." *Educational Research Bulletin*, Ohio State University, January 11, 1928, p. 17.

painstaking efforts. For them exhibits will be arranged, and excursions to shops and to museums will be planned.

Contests and exhibits create for such pupils very great interest in their industrial and home arts work. Provisions for certificates of award are desirable since it makes social approval tangible.[1] By such means, it is probable that pupils will seek help from books, ask advice from well-informed members of the community, visit museums and demonstration laboratories, and in general carry their school enthusiasm out into their out-of-school lives and into their relationships with many desirable persons and institutions. Such contests also stimulate originality and initiative and call into expression talents unsuspected by teachers, parents, or the pupils themselves.

(2) *Pupils who have more rough and ready manipulative interests.* They want the motor to run, the bread to be wholesome and taste good, the book-shelves to hold books, the radio to "work"—they have little interest in how "pretty" they look. It is futile to try to make the executives into artists; it only inhibits their enthusiasm. They can and should be encouraged to do functionally superior, truly workmanlike jobs; there is no sense, however, in compelling them to repeat work that is well enough done to meet functional requirements, in order to bring it up to any abstract standard of beauty. Such pupils should be led to read widely, to observe and discuss the operations of industries and homes.

[1] An interesting exhibit called Tinytown was conducted recently in Springfield, Missouri. The idea was originated by the Director of Publicity for the "Build Now" campaign of the Chamber of Commerce. A thousand pupils in the public schools built houses for a miniature city in the ten weeks allotted for the work. Prizes were given for the most original and valuable designs and for the best cabinetwork.

Cf. Dell, S. M.: "Industrial-Arts Contests and Exhibits." *Industrial Arts Magazine*, May, 1928.

Occasionally, opportunities should be made for such pupils to display their products. At a Parent-Teacher Association meeting, on one occasion, there was shown a re-made automobile that a group of young craftsmen had made over after it had been rescued from a junk-shop. The Boy Scouts sometimes put on an exhibit of airplanes or boats or bird-houses or kites or scout equipment; in such exhibits *function* rather than *beauty* and *finish* is the standard of excellence.

(3) *Pupils who have little propulsive manipulative interest, but who have even less talent or enthusiasm for book-work.* Many of these may be dull-normal pupils. Some will be bright enough; they have just never "caught hold" in their previous curricular experiences. From the first such pupils must be made to feel adequate. This may be done at first by engaging their efforts in such activities as the following: toy-making; airplanes that fly; jig-saw figures that perform stunts; electric trains and signals and switches; heliographs by which they can signal each other; Scout equipment; field telephone outfits; camp breakfasts to cook; "parties" to prepare; preparations for a canoe trip; altering an attic room for a "club room." Such programs must be based on the interests and opportunities of the pupils, of course. An inquiry regarding their uses of leisure time and their home activities will furnish many leads to the teacher of initiative.

Mr. Lester Carson, who had charge of the practical arts pupils in the Solvay Junior High School, 1914–1918, organized Saturday hikes and a camp for his boys, and much of their shop work related to their week-end activities. At Blewett Junior High School, Mr. G. H. Hargitt (now Supervisor of Manual Training in St. Louis) planned the seventh grade practical arts work around the extra-school interests of his boys. He would make a model and the boys, after studying

it, would copy it or make adaptations of it. The shop was replete with telephone lines, electric roads, telegraph installations, camping devices, and the like.

In the junior high school grades of Garfield High School, Los Angeles, California, very diversified projects are worked out by the boys. They repair sockets, electric irons, bicycles; they make such electrical devices as a semaphore, a traffic signal, and an alternating current buzzer.[1]

By such rich and varied experiences, many formerly indifferent pupils develop a real interest in industrial and homemaking projects. *Nearly all gain a joy in school; and all gain in self-respect.*

(4) *Junior high school pupils who have present vocational or prevocational industrial enthusiasm.* Almost one in three pupils of junior high school age[2] in many communities will actually face the problem of earning a living before he reaches the tenth grade. There has been a good deal of sentimental theorizing about the vocational or prevocational preparation of junior high school pupils. Granted that junior high schools have not as yet learned how to be very helpful to many of the pupils who leave school to enter industry, it nevertheless remains a most serious problem which cannot be avoided by talking vague generalities about the desirability of vocational preparation for junior high school children.

Many of the pupils who leave school to go to work enter commercial establishments; the desirable opportunities for them are dealt with elsewhere (Chapter XVI). A consider-

[1] Cf. Best, Virgil H.: "Diversified Shopwork in Academic Schools," *Industrial Arts Magazine*, March, 1928, pp. 88 ff.

[2] Cf. "Vocational Guidance Association News Letter," Jan., 1928, p. 8.

A study of the disintegration of the class which graduated from the La Crosse, Wisconsin, High School in 1926 showed that 31.6 per cent of the pupils who had been in the 7B class in 1920 dropped out during the 7th, 8th, and 9th grades.

able number do, however, work on their fathers' farms (in rural and semirural communities) or enter apprenticeships for trades (if they are fortunate enough to be accepted) or go into various unspecialized jobs as helpers or machine tenders in factories, garages, junk-yards, and dress-alteration establishments. Such pupils should have found in the junior high school, opportunities to do most of their actual school work in practical industrial operations and in *closely related* academic work and to be *successful* in whatever they had seriously undertaken.

The tacit acceptance of the assumption that children remain in school until they enter the tenth grade mistakes the aspiration for the fact.[1] More foolish, however, is the argument that the preparation of pupils to go to work actually results in their leaving school. Again and again, this assumption has been shown to be unsound. When commercial subjects were introduced into the twelfth grade, pupils went to business-school to get their training or else left and got jobs which required no specialized training; when commercial subjects were offered in the ninth and tenth grades such pupils remained in high school.

At Solvay, in 1914–15, direct preparation for industry and commerce was introduced into the junior high school for all pupils who were of legal age for leaving school. As a result the prevocational courses quadrupled in size in a year and a half, and the pupils who entered them worked seriously and purposefully and remained in school.

At the Washington Junior High School, Rochester, New

[1] Cf. Reed, Anna Y.: "Human Waste in Education." The Century Co., 1927. Data from many statistical and qualitative surveys show how few pupils ever enter the 10th grade and how many children *do* leave school to enter industry, commerce, and agriculture before they are sixteen.

York, similar results were found. Lyman explains the purposes and results of the Smith-Hughes courses there:

In considering vocational opportunities as presented in Washington High, it must be clearly understood that the same plant is utilized to carry on quite distinct lines of educational endeavor: *graded prevocational* work, usually considered one of the most important functions of a school on this level, and *ungraded vocational* work, as prescribed by the Smith-Hughes legislation. During its first two years, Washington confined its attention to the prevocational, providing for it a moderate amount of instructional energies together with a few rather inadequately equipped shops, such as are usually found in a strictly prevocational junior high school. In 1917, extensive equipment and several teachers were added through Smith-Hughes subsidies, and at present there are nine manual arts shops for boys and corresponding household arts equipment for girls, with seventeen teachers. The shops include printing, pattern-making, sheet metal, electricity, painting, and decorating, cabinetmaking and mill work, gas engine, machine shop, and drafting. Laboratory equipment for girls includes provisions for sewing, dressmaking, millinery, laundry, cooking, and household economics. The entire student body is influenced by the prevocational facilities, while 269 children, 16 per cent of the student body, are ungraded vocational pupils.

The demand for industrial education has constantly grown. At present 27 per cent of all the boys in school are in ungraded vocational courses; 55 per cent of all boys in differentiated courses above the seventh year are in technical and vocational departments; of these, 28 per cent are in technical and 27 per cent are in vocational departments. The extensive demand thus represented is a natural development of the industrial community; it cannot be a forced growth, since every child above the seventh grade is free to make his own choice, and no pressure whatever is exerted to force his selection.

Ungraded vocational work, limited to trade-training by

Smith-Hughes specifications, is said by Principal Glass to "complete the democracy of the school." [1]

It is interesting to note in this connection that a study of the subsequent destinations of pupils trained in the prevocational courses of Washington Junior High School showed that a majority of both boys and girls were employed and were using the skills and knowledges gained in the Washington Junior High School.[2]

In several States, the Massachusetts plan of home-project agricultural curricula is offered in junior-senior high schools to both boys and girls who are fourteen years of age or more. Through these opportunities, many pupils whose help is needed on their parents' farms are enabled to continue in school and to fulfill their duties by their parents at the same time.

School people interested in the industrial arts curriculum should know how many of their junior high school pupils are in fact sixteen years old, what fraction of the pupils do drop out of school to go to work, how many remain at home, enter industrial establishments, undertake apprenticeships, go to trade-schools, or work on a farm or an estate after they leave school. The inclusion of vocational or prevocational opportunities for junior high school pupils should be determined by the findings of such a survey and not by the recommendations of academic philosophers.

What Degree of Segregation by Sex in Industrial and Home Arts and in Prevocational Work Is Desirable? Traditionally,

[1] Lyman, R. L.: The Washington Junior High School, Rochester, N. Y. *School Review*, vol. 28, no. 3, March, 1920. Reprinted in Lyman-Cox: "Junior High School Practices."

[2] Cf. The Junior High School of Rochester, N. Y. Published by Rochester Board of Education, 1923. Pp. 157–160.

girls alone have studied cooking and sewing, or domestic arts and domestic science, or home economics; boys have taken manual training, manual arts, or industrial arts. This tradition though it is of relatively short duration has resulted in so powerful a momentum that the segregation continues even though it is strangely at variance with the facts of life. As a matter of life, girls generally enter directly into industrial life from the junior high school in larger numbers than do boys, and in larger proportion to the entire number of pupils. And yet they are seldom given any preparation whatever for the vocational environment into which they will so almost certainly pass.

Even the relatively few girls who remain in their own homes to work on leaving school, do in fact care for the garden, the chickens, the Ford, and the fruit quite as truly as they cook or wash or sew or plan meals. It is seldom, nevertheless, that girls register or are encouraged to register in industrial arts or agricultural courses which involve the use of machinery or the care of live stock or the culture of gardens.

On the other hand, many boys purchase and care for their own clothes, help prepare meals, plan their own budgets, and even supervise the washing-machine. But boys seldom enter or are invited to enter the home arts courses. The school thus adds its influence to the persistence of the absurd tradition that men have interests in homes only as money earners and mechanics and beasts of burden, while all girls wash and sew and cook and decorate and plan domestic budgets.

[1] Camping trips and overnight hikes have been popularized in recent years for both boys and girls. Camp-making and sanitation and cooking afford problems which may be used by the junior high school to stimulate and give direction to very desirable leisure time practices. Often, too, camping experience tends to promote a resourcefulness in adaptation that penetrates the campers' home lives, civic lives, and vocational lives. Cf. Child, Alice M.: "Camp Cookery." *Journal of Home Economics*, V. 20, no. 5, May, 1928.

School Credit for Outside Industrial and Home Arts Activities. It is true for all phases of the curriculum (except the relatively meaningless academic electives) that school experiences are less vivid than those related experiences which the pupil finds in the world of actualities, and that the school's function is to re-enforce, guide, and direct pupils to do better the desirable activities which they are now doing anyway. This recognition is, however, much more significant for changing practices in the industrial, home, and fine arts courses than elsewhere.

Unless pupils do now apply in their homes, in vacations, in the Scouts, and out-of-school jobs, the practices which the school is seeking to promote, then little is gained by the school experience. The school must recognize that this fact is of fundamental importance. Whether school marks shall be affected by what the pupils actually do at home in cooking and carpentry as well as in Latin is not important. Often the school can better recognize home activities by special insignia or by certificates. But some steps must be taken to offset the silly fatuous conventional practices of teaching industrial, home, and fine arts in school with no recognition of home and other out-of-school practices, side by side with the teaching of Latin and algebra by mothers and fathers and pupils themselves at home, and then spending recitation periods to test and mark pupils to see how effectively they have so distorted their normal home lives.

The world of industrial products and processes and the resulting modes of thinking and values now surrounds junior high school pupils. It is in this complex world that their lessons will be learned. The industrial arts teachers should see the world as the true general shops and should then plan and operate their own shops in school—their stimulations, prac-

tices, and rewards—so as to exploit the behaviors and enthusiasms of pupils in the world outside the school.

The General Shops versus "Try-out" Specializations. Earlier in this chapter, it has been pointed out that the nature and aims of industrial arts are such as to recommend the general shop instead of the special woodworking, electrical, metal, printing, and other shops. Home arts, likewise, can be carried on in a general homemaking apartment more effectively than in specialized domestic science laboratories—though adaptations are, of course, necessary to make possible "unit kitchens" where four or six pupils can work together in the preparation of a meal or of special courses for a more elaborate meal.

For the prevocational pupils, try-out shops have certain advantages over the general shops and homemaking apartment—and very large junior high schools may be justified in establishing such shops. Girls preparing to enter the garment trades can here be given practice on "power" machines in quantity production of bed linen, rompers, dresses, embroidery, hats, and the like. Boys who plan to enter electrical or printing or carpentry or auto mechanic trade can work at jobs corresponding to those of industry under conditions comparable to those which they may later meet.[1]

For smaller junior high schools, semi-specialized shops are frequently feasible. Thus, at Solvay, in 1914–16, in a junior high school of approximately three hundred and fifty pupils, the prevocational boys had three small shops. One of them was adapted to woodworking, electricity, and concrete construction; it contained regulation carpenters' benches, power machinery, model compartments for wiring and rebuilding,

[1] Cf. Myers, George E.: "The Problem of Vocational Guidance." The Macmillan Co., 1927. Chap. VI.

and mixing space and forms for concrete work. A second shop was devoted to printing and painting. The third shop contained the benches and machinery necessary for sheet metal work, plumbing, pipe fitting, and metal lathe, shaper, drill press, forge, et cetera. Most prevocational students found their work in one shop almost exclusively; others worked in one shop after another until they found an abiding interest, or transferred to some other department.

In the same school, the prevocational girls worked half the day in a room provided with power machinery, or in a large kitchen preparing the school luncheons. Some girls specialized entirely in work of one room or the other; others continued both lines of general activity; all were encouraged, however, to become specialists in some aspects of one or both fields of endeavor, according to their talents and tastes. Occasionally, of course, girls transferred into other departments of the junior high school—the commercial or academic curriculum, or the regular household arts elective work.

Related Mathematics, Science, Mechanical Drawing, and Applied Art Are Sometimes Effectively Taught in Correlation with Industrial Arts, Home Arts, and Agriculture. Much of the earlier impetus which shopwork and household arts and agriculture received was based on a faith that the more abstract subjects could be correlated with them and so be made meaningful.[1]

The difficulty has been that wnen mathematics and science and art and mechanical drawing were made meaningful to boys and girls in shops and cooking rooms and on farms, there was very little of formal mathematics or of formal science or

[1] Cf. Morrison, H. C., et al: "Some Aspects of High School Instruction and Administration." *Thirteenth Yearbook*, 1914, Part I. N. S. S. E. Public School Publishing Co., Bloomington, Illinois.

of conventional art or of "mechanical drawing" in the correlated courses. Such co-ordination of parallel courses is not advised by the author of these pages.

Pupils interested in industrial or home arts or agriculture will, no doubt, frequently learn more of functional mathematics, functional bookkeeping and cost accounting, functional drawing and art and representation and functional science[1] from this incidental instruction than they will from more formal courses. But the objectives are different; such instruction will seldom satisfy a requirement for knowledge of mathematics, science, art, or mechanical drawing, *per se*.

In any case incidental instruction must not be left to accident. Each job sheet or project assignment should contain some requirement for study and practice in the related science, mathematics, drawing and appreciation, which is of assured value in helping pupils apperceive the full significance of their projects. In the lay-outs for Smith-Hughes Curricula such provisions for teaching related knowledges, habits, and attitudes have generally been provided.

Teacher-training institutions, specializing in home economics have frequently placed much emphasis on health education, budget control, interior decoration, and "home atmosphere" as an elaboration of the traditional cooking and sewing of the household arts education. Too frequently in household arts class practices, however, the routine of two decades ago is still followed; recipes are written on a board, copied down by the pupils, who then proceed to make the rice pudding; or cloth is laid out, the process explained and demonstrated, and the girls make the garment, as directed. In such practices, there is a minimum of reflection or judg-

[1] Cf. Pickett, Ralph E.: "A Science Course for Plumbers in a Vocational School." Unpublished Doctor's Thesis. New York University, 1925.

ment, and almost no attention is paid to the related knowledges, skills, or appreciations.

Miss Anna Haley, of Solvay, New York, Junior High School in 1914–16, had as much of the sewing as possible done by girls who arranged their chairs with hers in a circle and talked about home remedies, meal preparations, costs of housekeeping, and many problems of human home adjustments, while they sewed. In this way, she duplicated somewhat good home practices of sociable communication during home-work, she set higher standards of conversation and made them enjoyable, and she assured to the girls the related knowledges and appreciations. Less talented teachers might prefer, however, to set definite times and make definite provisions for such instruction.

In industrial art shops there frequently are recitation-demonstration corners with chairs, sometimes bleachers, where related knowledges and skills can be taught. Mere equipment is futile, however, unless there is a conscientious effort on the part of the teacher to see that each pupil in his class does understand and practice the related knowledges and attitudes.

Elective courses in mathematics, science, art, and mechanical drawing are open as alternatives or as supplements to the industrial arts elective. If these subjects are to be taught to pupils as subjects, it is more satisfactory for them to be taught by teachers who accept responsibility for them as subjects. But not too much "carry over" to the industrial and home arts courses must be anticipated. Pupils who can solve mathematics problems, who know much of science, who have art technics and appreciation, and who are skillful in mechanical drawing will not inevitably use their knowledges and skills in their industrial or home arts or agriculture courses.

Systematic Instruction in the Care and Repair of Tools Is Essential. In the world of practical affairs, there is a vast waste of equipment due to carelessness and ignorance. A confidence and pride in one's possessions would save to individuals and to the community much machinery and many buildings and tools which are allowed to deteriorate.

The cheapness of replacement of machine products must, of course, be taken into account. Doubtless, it is economically wasteful to straighten wire nails or to overhaul a 1921 Ford which can be replaced for twenty-five dollars. But the alternative between repair and replacement is not always so clear-cut.

Working with a dull axe, a hammer the head of which is wobbly, a saw that needs resetting, a chisel or plane that needs sharpening, a sewing-machine in which the thread keeps breaking, a gasoline pump which needs oiling or cleaning, a gas stove that needs adjusting, farm machinery that has been left out in the weather, and many other such time and energy consuming and dissatisfying operations are wofully common. Provision for corrective and preventive instruction is necessary.

From the first day of entering the shop or home-arts rooms, every pupil should have some possessions of his own—particularly those instruments which get dull or out of order quickly. Each industrial arts pupil should have his own knife, his own plane-blade, and his own saw and chisel. Every home-arts pupil should have her own costume, needles, scissors, and perhaps, her own fundamental cooking utensils. These, every pupil should be taught to keep in repair. If they are lent or borrowed they must be in proper condition when returned. The instruments that must be common property should have pupil-sponsors. The common tool-room should

have one or a committee of pupils who are responsible for the condition of every tool given out and returned by the members of the class. The lathes, stoves, sewing-machines, and silverware should be assigned to pupils who will see to it that whoever uses them accounts for everything in good condition. By rotation, all pupils should sooner or later accept such responsibilities.

Tests of Progress in Mechanics and Home Arts and Agriculture. The arrival of "new type" tests has affected the measurement program in these subjects as it has in so many others. Verbalisms, associations, memories, abstract skills are so much more readily tested than are the arts, that almost every number of the *Industrial Arts Magazine* contains true-false, multiple choice, matching tests of information regarding printing, painting, machines, automobiles, lumber, sewing stitches, food values, and the rest.

Now, all such knowledge is of potential value, and such tests are fun to make and to give and even to take (if too much does not depend on the results). Their only shortcoming is that they emphasize the relatively unimportant measurable outcomes; they pay no attention to the skills, muscular adjustments, concrete judgments, or social and individual attitudes which the industrial and home arts and agriculture electives aim to increase.

The tests of mechanical aptitude and adjustments devised and used by Stenquist[1] as a basis for his doctorate dissertation, utilized common mechanical articles of everyday life adapted for use as tests under standardized conditions; he also used, and has published[2], picture tests dealing with similar

[1] Stenquist, John L.: "Measurement of Mechanical Ability." Teachers College Bureau of Publications, "Contributions to Education," No. 130, 1923.
[2] Stenquist, John L.: "Mechanical Aptitude Tests," I and II. World Book Co., 1921.

mechanical information, aptitude, and ability. The chief value of these tests is in helping the instructor to diagnose the abilities, aptitudes, and needs of his pupils; they are of less value for measuring progress or results of instruction.

The McQuarrie[1] test of mechanical aptitude has also been somewhat widely used. The results from both the McQuarrie and the Stenquist tests indicate that many pupils of low abstract verbal intelligence (such as is measured by the "general intelligence" tests and expressed by the I. Q.) have considerable mechanical abilities.

Summary. When boys and girls enter the junior high school they are generally unspoiled and not over-sophisticated. They enter their homemaking and shop experiences joyfully and eagerly. The loss of this spontaneity is too general; it can be understood only by a recognition of the influence of the world of adults in impressing its frivolities and superficialities on the youths.

The question remains however: Does the junior high school industrial and home arts and agricultural program combat intelligently tendencies toward disinterest and sophistication? The answer in general must be in the negative.

The school must so plan its program that its approvals will arouse and re-enforce the approvals of those parents, Scout leaders, adult neighbors, and other community members whose approvals count. The school must see in the home the manifold duties and activities of the mother and father and so direct the home activities of children that they will find both school and home approvals in co-operating as maids-of-all-work and jacks-of-all-trades in caring for their dwelling-places and their home farms or gardens and in contributing of their

[1] Horning, S. D., and Leonard, Ruth S.: "Testing Mechanical Ability by the MacQuarrie Test." *Industrial Arts Magazine* 15: 348–350. October, 1926.

time and skill to community undertakings. So—*and only so*—can home atmosphere be conserved and community membership be promoted through the school's industrial and home arts programs.

The industrial arts, home arts, and agricultural electives are units of vigorous experiences and joyous satisfying adventures which reproduce conditions which now exist and will apparently increasingly obtain in homes, in industry, and in agriculture. To the degree that both boys and girls do now and will probably continue to participate in the activities of industry, homes, and farms, or of any combination of these activities, the electives should be open to both boys and girls.

The courses with which this chapter has dealt will, it is hoped, humanize the educative process, by offering rich and meaningful and socially valuable educational opportunities to each child according to his ability and aptitude. In so doing, they will be fulfilling the primary function of the junior high school, which is, at the same time, the crucial and supreme purpose of democracy.

CHAPTER XVI

ELEMENTARY BUSINESS PRACTICES

In the preceding chapter, "Industrial and Home Arts" in the Junior High School, the close relation between the junior high school curriculum and the industrial civilization in which we live has been emphasized. Directly related to this industrial civilization are the business correlates: banking, marketing, accounting, and management.

The progressive school endeavors to institute life situations in its curriculum and so it selects and promotes purposeful activities by which to re-enforce, guide, and direct the activities of pupils both within and outside of the school. In so doing it regularly makes use of business processes—letter-writing, arithmetic, filing, keeping of records, and the like. Such items appear frequently and rightly in the core-curriculum, since they are bound to play a large part in children's present and later lives.

Commercial Arts Should Be a Popular Elective Subject. Many children of all intelligence levels and social backgrounds find in such experiences vital stimulation to seek further practice and information than can be reasonably given in the core-curriculum. For them business electives should be offered which are concrete and stimulating and of present worth. Such electives are too seldom typical of junior high school curriculum practices.

Commercial electives and curricula are common enough, to be sure. Sometimes, however, they are limited by practice, if not by regulation, to the mentally less able pupils. Too gen-

erally, also, the commercial subjects are dominated by the senior high school preparatory aim—sometimes even by the senior high school commercial department!

Junior high school commercial electives should be concerned with present values and present experiences of children. Such activities will generally be common to both children and adults. Junior high school pupils, like adults, are constantly buying, selling, exchanging, consuming, communicating, producing, and recording. Legislation and politics, discovery and invention, waste and thrift, production and readjustment, and taxation and privilege which go on around us all, assure that we shall enter, actually or vicariously, into a commercial civilization. In life itself, participation in the business activities of the community is not limited to the mentally inferior; nor does it depend on touch-typewriting or formal bookkeeping.

Commercial Arts Have Not Often Been Intelligently Planned or Taught. Until recently, however—and, indeed, the practice is still common—commercial teachers in the junior high school have been trying to make typists, bookkeepers, or even stenographers of fourteen- and fifteen-year-old boys and girls. However justifiable such practices may be for a few children, the efforts to superimpose such remote practices and aspirations on all who might elect commercial work—or worse yet, all who might be allotted to commercial electives because of arbitrarily determined range of intelligence quotients—have been found to be futile. On the one hand, the vocational outlet for fifteen-year-old typists, stenographers, and bookkeepers is limited; and, on the other hand, many pupils will not accept abstract skills as goals for which to strive.

As a reaction against such formal skill-producing practices,

commercial educational leaders have frequently supported the inclusion of a course called "general business training." The name given to such a course seems very hopeful. In practice, however, the published courses seem frequently to emphasize the information goal. Thus, the course has fallen into the perilous path of academic education; it has attempted to seek a short-cut to experience and understanding of our business environment by means of verbalisms, definitions, and abstractions.

Information and abstract practice with commercial forms are likely to be as futile as commercial geography, chronological history, and English grammar. Often "general business training" results in encyclopædic word knowledge, abstract neatness in keeping imaginary accounts, and making out imaginary checks and vouchers and sales-slips. Sometimes, it results in boredom, discouragement, and failures.

Nevertheless, the idea behind general business training is sound. Much of its proposed content belongs in the social science course of study, however. The rest should be rescued from lesson-learning and recitation and exercises; it should be imbedded in concrete practices and thus constitute the basal business elective in the junior high school.

Commercial education in the junior high school should be composed of activities and experiences always parallel to, often dramatically reproducing, and sometimes actually consisting of the very socio-economic experiences of every-day life. These activities should be planned and carried out so as to re-enforce, guide, and direct the attitudes and behaviors of the boys and girls in their lives both in school and outside and beyond the school.

Home life, civic life, commercial life, even leisure life, are largely business institutions. The school itself is a business

institution. The commercial classes should be business institutions that prepare and encourage pupils to understand and participate in life. In commercial classes should be found active co-operations, active competitions, and active conflicts in dealing with businesslike problems.

In the few pioneer schools where this conception of the commercial arts is in evidence, one no longer finds rows of children learning touch-typewriting to count or to music; one finds little of recitations from books; entire classes are not making out meaningless uniform checks and notes, practicing ovals, doing rapid addition, or learning short-cuts in arithmetic. (Of such things were the grammar grades which the writer attended in 1895–98—giving them a new name does not decrease their futility.) In the pioneering school, teachers know that only that knowledge will persist which plays some rôle in determining the individual's welfare in his every-day adaptations.

Commercial Arts Activities in Some Alert Junior High Schools. Commercial classes in some schools take advantage of the administrative and clerical aspects of the school and its community. Supplies for instruction, for lunch-room, for office, and for janitorial force are ordered, received, distributed, and accounted for by commercial pupils.[1] The funds of all student organizations are cared for by the commercial pupils—bills paid, orders and vouchers filed, and accounts rendered.[2] The organization treasurer makes a monthly report showing income "from whom, for what" and expenditures "to whom, for what," accompanied by receipts to cover

[1] Meredith, Frank G.: "The Correlation of Extra-Curricular Activities with High School Business Education." *Vocational Education Magazine*, vol. 2, no. 4, Dec., 1923.

[2] At Montclair, N. J., High School, and at Grover Cleveland Junior High School, Elizabeth, N. J., this is done.

each expenditure. This report is sent to the commercial department, which makes an abstract of all the reports. A copy of the abstract is sent to the faculty banker and to the principal. All receipts are kept on file. It is suggested that about half of the general fund be placed at interest. This will defray the expense of blank forms, et cetera. Accounts may be audited by a public accountant at the end of the year.[1]

The secretarial work of teachers, parents' associations, department leaders, and to some extent of the principal, is cared for by commercial pupils in some junior high schools. The attributes of courtesy, accuracy, promptness, appropriate dress, and the like are thus learned in social situations as nearly as possible like those of civic and economic life. In such social practices, self-guidance takes place. Such orientation and self-guidance are the aim of all guidance.

At the Bayonne, New Jersey, Junior High School, squads of six or eight commercial arts pupils are constantly engaged in the principal's office under the direction of the school secretary. Attendance reports, school supply vouchers and inventories, messenger services, message taking, and courteous treatment of callers are among the responsibilities of these pupils. Another squad is assigned to the director of the school cafeteria; a third squad, to the school librarian, and other squads to teachers who have special clerical assignments from

[1] An exhaustive study of "The Administration and Supervision of High School Student Body Finances," by A. B. Bullock, of Los Angeles, will be found in *The Balance-Sheet* for March, April, and May, 1928. It should suggest to any alert commercial teacher many opportunities for applied education.

Cf. also Trumbull, F. M.: "Survey of Junior Wage Earners," Rockford, Illinois, 1923, quoted by Reed, Anna Y.: "Human Waste in Education." The Century Co., 1927. Pp. 255–258.

Cf. Charters, W. W.: "Summary of Report on Analysis of Secretarial Traits and Duties." Service Bulletin No. 1. Nat'l Junior Personnel Service, N. Y., 1924. Complete report of Dr. Charters' analysis is published as "An Analysis of Secretarial Traits and Duties," by Williams and Wilkins Co.

time to time, and who make application to the commercial arts teachers for pupil assistants.

At the Solvay Junior High School, during the author's superintendency, the commercial arts pupils typed the dance orders for the Monday afternoon assemblies; they typed the menus both for the school lunch-room and for the teachers' lunch-room; they mimeographed the letters and forms sent out from time to time by the principal and superintendent to teachers and parents; they typed the letters sent by their own Junior Chamber of Commerce to various organizations throughout the country; they were responsible for filing and keeping card records of all "jobs" undertaken by individuals and groups in the class; they performed various other clerical and personal services for teachers, for the parent-teacher associations, for the junior high school assemblies, athletic teams, clubs, school entertainments, and parents' nights.

At the Blewett Junior High School, the "Technical Commercial" pupils (so called to distinguished them from the regulation bookkeeping pupils who followed the course prescribed in the four-year high schools) were organized in two-hour shifts—the mathematics and commercial work being the responsibility of the same teacher. One such class met during the third and fourth periods; another during the fifth and sixth periods. About half of each class worked in the commercial arts rooms; the other half was distributed to various school officers to act as their assistants. The work was on a "paired basis" so common in co-operative high schools. Thus, pupils A and B, and C and D might be assigned for periods three and four each day to the teacher in charge of student club funds, during one of which periods this teacher was freed from class duties because of his special responsibilities. A and C would report to the assigned task of student club accounts

for one week while B and D reported to the Commercial Arts room; the next week they would exchange places.

Some pairs of pupils served in the principal's office; others served the teacher in charge of supplies; others, the teacher in charge of text-books; others, the librarian; others, the thrift sponsor; others, the grade administrators; and others, the commercial teacher herself.

In Such Schools Information and Skills Are Not Neglected. During the periods spent by the pupils with the commercial teacher, penmanship, spelling, arithmetic, business forms, typewriting were taught; pupils were also instructed in the use and care of office equipment—the files, the mimeograph, and the calculating machine. Such instruction was planned on an individual basis. The Buckingham extension of the Ayres Spelling Scale was modified by the inclusion of many business terms, and pupils were given certain columns in which to perfect themselves for a "100 per cent right" test. Failure to win the coveted goal meant a decrease in the amount of time they could spend with the typewriters and files, and might temporarily endanger their appointments for the out-of-class special service described above.

Similarly pupils were required to attain and retain uniformly a legibility as high as quality 70 on the Ayres Gettysburg Handwriting Scale—a quality 20 points higher than that demanded of the non-commercial pupils. They also had to learn to scale down their writing so that it would fit in to business forms, bookkeeping sets, and the like. Much emphasis was given to figures as well as to letters, and to writing with the pencil as well as with the pen—after an investigation by the teachers had shown that in business practices the pencil was more commonly used than the pen, and that figures were more frequently written than words, and that er-

rors due to illegibility of figures were more frequent and more serious than those due to illegibility of letters.

A higher degree of speed and accuracy in arithmetic was demanded of commercial arts pupils than of others. Some attention was paid to short-cuts and other "business arithmetic" devices, but the major emphases were directed to estimating results before computation, checking results by reversing the processes, and applying the results to the problem situation to make sure that they were sensible. These pupils were, however, given some practice in general mathematics—the formula and simple equation, intuitive geometry, and numerical trigonometry.

In typewriting correct fingering was insisted on, but touch typing was not required except for pupils who, after at least one semester, wished to specialize in typing. A series of progressively more difficult letters were set out, and pupils practiced enough to write these real letters with sufficient accuracy and beauty so that the teacher or the teacher's student assistant would approve their being sent.

Practice in filing and on commercial forms was limited to the class's actual or dramatized needs. Thus, the pupils kept very complete records of their own time-budgets and time expenditures; they filed their own papers and supplies and kept a card record of them; the cards showed their progress and sometimes indicated needs for rebudgeting their time. In addition, however, they played bank, commission house, contractor's office, and city assessor's office, and they arranged files and forms for these specific situations after reading about and sending committees to visit typical institutions in the community.

Commercial Clubs May Supplement Commercial Classes. In a number of junior high schools the teacher of commercial

arts is also the sponsor of a commercial club. Various attractive names are adopted by such clubs, such as Young Business Men's Club, Junior Chamber of Commerce, Serve and Save Club, Junior Bankers, and the like. Such clubs frequently undertake special study projects involving trips, reports, invited speakers, and the preparation of assembly programs. Sometimes they render special services to the school community, such as the operation of a school bank, preparing typed or mimeographed book-lists for the library or for science, social study, and English departments, attending to the administrative details of school entertainments, inventorying and accounting for athletic, gymnastic, and other school supplies, and many such services as have already been listed as occupations of the commercial arts classes in a few pioneering schools.

Clubs have certain advantages over classes in all schools in which freedom from convention in class procedures has not yet been obtained. There is more of the personal give-and-take, more spontaneity of expression, more contagion of interest, and more pride in voluntary service. Pupils who spend an hour or more a week in an atmosphere of enthusiasm and self-respect and success will generally react differently in much of the rest of their school and extra-school lives. Courage and enterprise are set free; sympathy and understanding between pupils who have like interests are increased; self-confidence in the worth of one's own thinking and activities develops.[1]

Prevocational, Intensive Technical Commercial Work in the Junior High School May Have a Legitimate Place. In most States, pupils are free to leave school for work at fourteen years of age if they have completed eight or even six grades. To be sure, they must attend continuation school in many States, and so the school has some contact with them

[1] Cf. Ulrich, Florence E.: "The Value of Commerical Clubs," *The American Shorthand Teacher*, December, 1927, p. 127.

for four or six hours a week. Potentially, however, a considerable number of the junior high school pupils are on the verge of entering wage-earning occupations. In urban populations, some thirty to forty per cent of the junior high school pupils do so in fact, before they enter the tenth grade, and some twenty to twenty-five per cent of those who go to work before they are sixteen do enter mercantile, office, and messenger and delivery services.[1]

In urban communities, boys who leave school for commercial employments at this early age become errand boys in most cases: in small numbers they enter department stores and offices and small stores; girls (a much larger proportion of whom enter industrial occupations than commercial employments) enter small stores, department stores, and offices.

Relatively few such youths will profit immediately in their jobs by intensive office-practice instruction in the junior high school, but these few—and others who have similar aspirations—should have their chance of a semester's concentration in manipulating office appliances. More may enter department stores and small stores. For them, occupational skills and knowledge, such as the care of the stock, and the making of sales, may be learned "on the job," supplemented by continuation school instruction.

The school may, however, look beyond the immediate occupational requirements to ask this question: What, if any, skills and special knowledges, not readily attained on the jobs, would help the boys and girls to gain promotion? At Solvay, in 1914–15, the commercial teachers studied the opportunities for promotion from selected case histories. *At that time*, they concluded that familiarity with the typewriter, the telephone switchboard, the mimeograph, and practice in letter

[1] Cf. Reed, Anna Y.: "Human Waste in Education." The Century Co., 1927. Part II.

reading for reference of the contents to the proper parties were most valuable equipments for young people entering commercial offices. Employers confirmed what the case-studies had indicated—that boys and girls who could do these things became immediately valuable in the organization, and, if they were otherwise capable, promotion came to them rapidly.

Nowadays, apparently, fewer junior high school children enter offices even in such humble positions as errand boys; but enough still do so to make it worth the teachers' while to discover what seems to employers to be the needed equipment for rapid promotion. Once determined, the school should offer prevocational commercial practices, permitting interested pupils to work individually, in small groups, or in classes —according to the demand—for half their school time to obtain practice in the needed skills and knowledges.

Similarly, those entering other commercial pursuits from the junior high school should have the chance to gain the peculiarly valuable abilities in intensive prevocational training courses. Pupils will then often remain in school because they and their parents will recognize that they cannot afford to go out on a job without the equipment that they are getting in school. When such training is offered, whatever justification there may be for the complaint that pupils are being held in school who would gain more by being employed is largely decreased.

Objectives Both for Commercial Arts and for Prevocational Commercial Training Are Found in Activity Analyses. At several points in this chapter reference has been made to informal studies of business practices by the commercial teachers at Blewett and at Solvay in order to determine certain inclusions or emphases in their courses. Such informal studies require only two or three afternoons in following a carefully

pre-determined and pre-arranged program of visits and conferences during which answers to questions are set down by the teachers themselves in questionnaire blanks which they have prepared.

Such questionnaires can, of course, be sent out by mail, but, both at Blewett and at Solvay, it was believed that more satisfactory results were achieved by means of the interview. At Easton, Massachusetts, where the author used the mailed questionnaire plan, it seemed somewhat unsatisfactory; many employers and former students of the high school desired to co-operate, but they either replied what they thought that the writer wanted them to answer or else they argued in the support of whatever educational training they themselves had successfully experienced.

Such local surveys of practices should frequently be used to supplement the more careful investigations which are reported from time to time regarding business practices, duties and opportunities of young workers, and analyses of traits of successful office workers. Such local surveys will serve to show whether the conclusions of other investigators hold true for the locality of a specific junior high school, and they will serve to convince school administrators, parents, and local employers that the resulting curriculum modification is desirable.[1]

The search for traits desired in employees should include, as it did in the case of the Solvay study referred to above, not only present skills, knowledges, and social qualities, but those which would make it increasingly probable that the employee might quickly gain recognition and promotion. The "Job Analysis and Training Chart" compiled by Nichols is based on such a study. One aspect of this chart dealing with the "general clerk" follows:

[1] Cf. Charters, W. W.: Op. cit.

GROUP I. OFFICE POSITIONS—CLERICAL TYPE [1]

NO.	JOB	DUTIES	TRAINING REQUIRED: MORE REMOTE OBJECTIVES AND CONTINUATION-SCHOOL TRAINING—EVENING SCHOOL			
			COMMERCIAL	RELATED	PROMOTIONAL LINE	LATER PROMOTIONAL TRAINING
1.	General clerk	Answering telephone Sorting and arranging vouchers Preparing and making deposits Copy contracts Filing Typewrite from copy Trace way-bill (R. R.) Handle mail in and out Open and arrange mail Meet callers and learn wants Make notes and memoranda Check orders Make out bills	Office practice Business writing Business arithmetic Typewriting Elementary business organization	English Physical education Citizenship	Supervisor of a group Head file-clerk Office manager Correspondent	Business correspondence Filing and systematizing Employment management Office management

[1] Nichols, F. G.: "Federal Board for Vocational Education," No. 54, June, 1920.

Occupational Analyses Indicate Immediate Vocational Needs; They Do Not Necessarily Determine Educational Needs. Many otherwise admirable analyses of occupational needs are marred by the sweeping conclusions that if there is not a present or assured immediate future vocational need of a skill or knowledge, it has no place in the junior high school commercial arts or prevocational course. Such reasoning neglects the value of imitative and play-level education. It would be as absurd to say that if work on a lathe or on electric apparatus or in auto-mechanics or in millinery is not done commercially by fourteen-to-seventeen-year-old boys and girls, the industrial arts course should provide no such experiences.

Tonne[1] after a temperate and penetrating analysis of occupational and social needs for bookkeeping recommends that since it is "neither of cultural value, nor of vocational value, nor necessarily of exploratory value, or even of general commercial value, (it) is not justified in terms of the philosophy of the junior high school." He is, of course, speaking of the conventional bookkeeping course, and he does believe that some provision may be made for an "introduction to business" to replace "bookkeeping." Nevertheless, bookkeeping is often so taught in the junior high school in such ways and with such materials as to give a high degree of pleasure, and much valuable educational product is the outcome.

Similarly, the opportunity to study the elements of shorthand in the junior high school has often been given little consideration because its vocational uses are so slight. The criterion is too narrow. If children can gain a mastery of the outlines of the thousand most commonly used words, or of a hundred or even sixty, they have gained a time-saving

[1] Tonne, Herbert A.: "What Bookkeeping in the Junior High School Can Be Justified by the Philosophy of the Junior High School?" *Journal of Commercial Education*, vol. 56, no. 10, Dec., 1927, pp. 312 ff.

equipment; they feel success and satisfaction; they have grown in self-esteem. If an elective class can be formed in shorthand or "speed-writing" in the junior high school, there can be little doubt that it will be as valuable for the pupils who elect it as algebra or a foreign language is for those who elect either of these.

Typewriting in the junior high school was accepted blindly by administrators and frequently it was prostituted by teachers with private "commercial college" preparations or viewpoints so that it accomplished little. The possibilities of typewriting instruction in the junior high school have been exhaustively and penetratingly considered by Warner.[1] He concludes, however, that the mere facts that children like typewriting, that they can learn it readily without the stupid abstract drill, that they can use it for more adequate living, are not important enough to justify its inclusion except for a few pupils in a few schools where local conditions of elimination and employment justify it on vocational grounds. By the same reasoning, the school itself might be discontinued altogether.

If pupils do undertake typewriting zealously, if they can progress reasonably by means of significant exercises (and later experimental evidence[2] supports the experience at Solvay, at Blewett, and at Fitchburg Normal Practice School that they can do so), then it decidedly has a place in the Commercial Arts Course.

The fear that bookkeeping practice, shorthand, or type-

[1] Warner, Harold E.: "Typewriting in the Junior High School." *Journal of Commercial Education*, vol. 56, nos. 7–9, Sept.–Nov., 1927.

[2] Hainfelt, Charles F.: "A Learning Study to Determine Whether It Is More Economical to Learn Typewriting by the Whole or Part Method," *Journal of Commercial Education*, vol. 57, no. 3, March, 1928.

Cf. Moore, Lucy C.: "The Use of Meaningful Material for Drill in Typewriting," *The Balance-Sheet*, Nov., 1927.

writing "may displace more worth-while electives such as algebra and foreign languages" indicates a regrettable inferiority complex on the part of this commercial education leader, or an absurd veneration for the academic traditions.

The Course in General Business Training. Commercial education leaders, including Lomax, Nichols, Kirk, Carkin, Barnhart, Belding, and others, have generally given their approval to the inclusion of a course in general business training in the junior high school. It has even been urged that this course be given a place in the core-curriculum.

General business training has a place in the junior high school education of all pupils without doubt; but as a special segregation of experiences, apart from the social and exact sciences, it belongs rather as supplementary experiences to be elected by pupils who enjoy it. A typical general business training course[1] consists of the study of: (1) communication, (2) compiling, (3) indexing and finding useful information, (4) thrift, (5) metrical units, (6) credit, and (7) travelling. It will be seen that the topics are already included in the core-curriculum of most progressive junior high schools.

As an elective course, it may be of value as an exploratory or try-out course,[2] *if it consists of challenges to explore and to try out;* not, if it consists in reading some books and pamphlets and doing of assigned tasks, and not if it consists of development lessons.[3] If junior business training is to serve

[1] Belding, A. C.: "General Business Training." "Bulletin of High Points in the Work of the High School of New York City." Vol. X, no. 4, April, 1928.

[2] Brewer, J. M.: "The Argument for Junior Business Training," *School and Society*, vol. 25, no. 627, Jan. 1, 1927.

[3] Kirk, J. G.: "General Methods for Junior Business Training," *Journal of Commercial Education*, vol. 56, nos. 7–10, Sept.-Dec., 1927. Development lessons skillfully outlined for information-getting, but of little apparent value as try-out or exploration.

as "orientation rather than intensive training":[1] if it is to "be related to almost all the leading commercial (business) occupations";[1] if it is to serve as a preliminary introduction to senior high school office practice,[1] then the emphasis must be on the production of low-level skills, versatility, self-confidence, and joy. "Text-books and class-discussions in junior business training"[1] may give academic familiarity, but understanding will come only with school experience and success.

Summer Jobs and First Employments. Many junior high school pupils do leave school to go to work before they enter the tenth grade. Many pupils enter industrial life; they have been considered in the preceding chapter. Many boys get jobs as messengers and as errand or delivery boys. These jobs are often spoken of as "blind alley" jobs, and yet, as Trumbull[2] has pointed out, they need not be so.

If the school has been successful in establishing contacts with employers of juvenile labor, it should be very helpful in getting for those of its pupils who desire to work during vacations or after school positions in stores and offices where health and moral conditions are satisfactory and where the employer is discriminating and humane.

Such service would be preliminary to and preparatory for the more important one of placement when the boy or girl decides to leave school for work. The employment function is a natural point of contact between business and the public school; out of this relationship should grow a significant co-ordination and mutual understanding and appreciation.[3]

If the school has a placement officer, then this function is

[1] Brewer, J. M.: "The Argument for Junior Business Training," *School and Society*, vol. 25, no. 627, Jan. 1, 1927.

[2] Trumbull, F. M.: "Survey of Junior Wage Earners." Quoted by Reed, Anna Y.: "Human Waste in Education." The Century Co., 1927. Pp. 255–258.

[3] Cf. Link, H. C.: "Co-ordination of Business Preparation and Placement." Bureau of Education Commercial Leaflet, no. 10, October, 1924.

shared by the commercial arts teachers with that officer. If not, then the responsibility and opportunity should be accepted directly by the commercial arts teachers. It will motivate their own work and that of their students, surprisingly.

Summary. Electives in business practices may fulfill three justifiable purposes. For some pupils they may have immediate vocational values. For many children they may serve as exploratory or prevocational experiences. For most pupils they may have general educational values, if they are chosen voluntarily and if they are so taught as to emphasize the opportunities for pupil-initiative. On the other hand, if the courses in business practices consist of abstract exercises—lessons to be learned and recited, skills to be practiced, forms to be memorized—with no concrete outcomes in immediate practical uses, the values for any pupils will be very much restricted and tenuous and doubtful.

Business practices should be one of the most popular electives in the junior high school curriculum. It should be chosen and pursued successfully and enthusiastically by pupils of all intelligence levels, social backgrounds, and educational and vocational aspirations. No opportunity which the junior high school can offer has greater incidental values for pupils whether they plan to leave school for employment by the time they are sixteen or whether they plan to complete senior high school or continue into college. Such values are potential, however; they depend on the degree to which elementary business practices in the junior high school curriculum are real practices, duplicating or paralleling those of the business world.

CHAPTER XVII

THE JUNIOR HIGH SCHOOL AND COLLEGE ENTRANCE REQUIREMENTS

The influence which most effectively retards genuine reconstruction of the junior high school curriculum is the fear and ignorance of public school administrators regarding college admission requirements. Except for Bryn Mawr, Amherst, Williams and a few local or sectarian institutions, no college demands four units of Latin prior to admittance, and no liberal arts college demands more than three units of mathematics, English, or any other one subject. Hence, it is obvious that the junior high school need pay no attention whatever to specific college requirements.

Many colleges do, to be sure, still require that the senior high school certify fifteen or sixteen units[1] of acceptable subject-matter, but every pupil who completes junior high school has at least four units in English, social science, science, and one elective, which are acceptable. No college requires specific entrance examinations on units of work completed in the ninth grade.

Why, then, is the college entrance requirement so potent an incubus? Apparently the only reason is the ignorance and lack of initiative on the part of superintendents of schools, senior high school faculties, and influential citizens, and the lack of determination and resource on the part of junior high school faculties. In many communities the junior high school

[1] Colleges requiring fifteen units frequently stipulate that three units of English be certified for four full years of work. Thus, the nominal requirement of fifteen units means in reality sixteen units of college preparatory work.

is exploited to give more years of preparation in subjects than any college demands or gives credit for. Thus, it takes some junior-senior high schools six years to teach four units of Latin, five years to teach three units of French, five years to teach three units of mathematics. Such a procedure is an unutterably stupid waste of time and of human effort.

Nevertheless, the melancholy fact confronts us. To meet the condition, the North Central Association of Colleges and Secondary Schools, the New England Association of Colleges and Secondary Schools, and the Association of Colleges and Secondary Schools of the Middle States and Maryland have taken action urging colleges to make no definite prescriptions of subject-matter in grades below the tenth.

In this campaign, the North Central Association has taken the lead. After approving the general principle involved at every annual meeting from 1917 to 1921, this association took a definite position in March, 1922. Again and again since that time the North Central Association has reaffirmed this position by unanimous votes. In 1927, after full reconsideration of the question, the Association took definite action to urge colleges to make their administrative practices conform to the North Central Association's position.[1]

The Associations of New England and of the Middle States and of Maryland have recommended that the fifteen units be retained but that twelve only be specified, and that three free units be accepted without restrictions as to specific content. This is already the practice of such institutions as Wellesley, Smith, Mt. Holyoke, and Vassar. Even a wider margin of freedom is allowed by Harvard and several others of the men's colleges.

[1] Cf. "Report of Special Committee on Restatement of College Entrance Requirements," *The North Central Association Quarterly*, vol. 2, no. 2, September, 1927, pp. 166–172.

Administrative adjustments unfortunately lag far behind these common-sense adjustments. Colleges keep on asking for scholarship records for ninth grade units though they really are more interested in pupil's personalities and future promise, their native intelligence, their power to work and to organize their thinking at the end of their high school courses. This demand for scholarship records is so potent as to distort and stultify the process of education from the seventh grade through the high school. It definitely interferes with the school's efforts to give them the kind of students which they seek.

The Situation As It Exists At Present. The public junior high school is not a college preparatory school. It has to do with the education of children of late pre-adolescence and early adolescence for greater social efficiency, for better uses of leisure, and for good-will; these ends it promotes by means of present practices. Its fundamental conception is that what children will do in the future depends largely on what they do adequately and joyously now, that what children will know and what they will do in the future will depend on what they desire to do, to know, and to be. Hence, the junior high school endeavors to build up the emotional life of the child, to establish his self-confidence, his feeling of adequacy, his desire to participate in constructive enterprises, and his joy in service to his fellows and to his school.

At the present time, the greatest obstacle to the attainment of this ideal in the junior high school is the stupid and paralyzing fear of college entrance requirements. In a broad sense, the colleges are not to blame for this; they are simply inert and self-centred; hence, they are sometimes arrogant because they are ignorant of the *broad* program of public education. The blame, so far as it can be assessed, will have to be laid

largely at the door of senior high school faculties, of pompous, unreasonable parents, and of cautious, politically sensitive school boards and superintendents of schools. By tradition, the burden of selection and preparation for college entrance has been the recognized function of the secondary school. If students fail of admission to college, parents are critical of the high school; and school people, being human, "pass the buck" to the junior high school.

Algebra, Latin I, English rhetoric, ancient history were relics of the barbaric freshman year of the high schools of the nineteenth century. The stupid, meaningless grind of the traditional freshman year has disheartened and disgusted and discouraged boys and girls, so that most of those who formerly entered high school left within a year. Even with the better curriculum of the present, about forty per cent of the four-year high school enrollment is in the freshman class.

Junior High School Practices Typify Revolutionary Educational Conceptions. With the development of the junior high school, there have been greatly enriched curriculum opportunities for ninth grade pupils. The prescribed subjects in the more progressive junior high schools have been so modified as to deal with present activities of children, which are, as a matter of fact, very similar to those actually important in adult life.

If one could paint an adequate picture of the changes that take place in homes and in whole neighborhoods due to adequate leadership by the junior high school teachers of practical arts and homemaking, the possibilities of education as a telic process might be grasped. It is not that pupils from vital junior high schools know more or can do more than pupils from conventional schools—though one may be sure that they do and can; the important point is that they desire

to do more, to know more, to be more, and *that they feel adequate* to fulfill these desires.

By means of its core-curriculum and elective courses, and even more through its pupil clubs, assemblies, advisory systems, athletics, publications, and internal government, the school offers to every pupil, according to his genius, broad practical experiences similar to those of social life, and, hence, most adequately preparatory for active participation in life. In other words, it is an intensified and intelligently directed democracy of all of the children of the community at the period when friendly and sympathetic control is most essential. In this atmosphere of enthusiastic participation in a widely diversified program of activities, every pupil may discover for himself his aptitudes and interests. Hence, he may set out more earnestly and intelligently on his further educational and vocational career, and may find the place in the social scheme where he can contribute most and feel most adequate.

Children have questions regarding sex, relations to parents, social approvals, individual interests and behaviors that are seldom asked directly of parents or teachers. But pupils could be helped to answer these questions for themselves if teachers would give sufficient thought and effort to the promotion of situations in which some or many of these questions might arise naturally, and find their answers as behavior-adjustments—how to apologize for an offense, how to deal with an unreasonable and irate parent or other adult, how to behave with members of the opposite sex in all typical situations of life, how to examine critically, but sympathetically, all sorts of social institutions ranging all the way from taking off one's hat on entering a house to the authority of the Supreme Court of the United States. The adoption of a fearless scientific atti-

tude toward life can be gained only from direct experience with life itself.

The student in our high schools needs most to feel the supreme importance of his own questions. As Hart expresses it:

> he has a right to have his own questions; his own questions are more important than are mathematical or chemical formulæ; not to ask them is to suffer partial death, and not to be permitted to ask them is a sort of spiritual murder; to seek all his days for answers to them is the way of wisdom; and all mathematical formulæ, all the sciences and learnings, in fact—are significant just in the measure that they help us in the long run to answer the profound questions of life and work, of love and happiness.[1]

The Curricula of Colleges and Senior High Schools Are Vitally Affected by the Same Spirit. It should be noted that the dynamic conception of education that underlies this revolutionary new institution is functioning also in the senior high school and in the colleges themselves. The emphasis on the social-civic aim of education has gained headway in the high school in spite of the colleges. General courses in social-science fields are prescribed in some States by legislative action; in others they are prescribed or advised by State departments.

Even in the colleges the curriculum has been modified to include courses designed to adjust the student to the college environment; for example College Aims (Antioch); Orientation Lectures (Brown); Introduction to College Work (Johns Hopkins). Then there are courses designed to give an historical background to contemporary civilization; for example, Introduction to Contemporary Civilization (Columbia and many other colleges using the Columbia syllabus); Historical

[1] Hart, Joseph K.: "The Plastic Years," *Survey Graphic*, April, 1926. Also in "Light from the North," Henry Holt & Co., 1927.

Introduction to Political Science and Economics (Princeton). A third group designed to present the leading problems of American citizenship has been worked out; for example, Problems in Citizenship (Dartmouth, Leland Stanford, Missouri). There is a fourth group designed to train the student in thinking; for example, Introduction to Reflective Thinking (Columbia). In addition to the courses that may be properly classed in one of the foregoing groups, one institution, at least, offers an introductory course in Evolution. In general, where these new courses are offered, students are required to take them in either the freshman or sophomore year, but in some cases they are elective.[1]

Not only have these formal curriculum modifications appeared in colleges, but there have been also vital advances in serious co-operations of the college administrations with undergraduate groups. Of outstanding importance and excellence was the report of the Committee of Dartmouth students appointed by President Hopkins, especially since the college recognized their work as curricular by granting credit toward graduation for it. More recently there has been published the report of the Harvard Student Council considering and offering solutions for many college problems.

In an editorial in the *Harvard Alumni Bulletin* for April 15, 1926, appears the following most stimulating comment on the changes in college practices:

The new tutorial system, the new general examination system, and whatever else is new in Harvard College, work in the direction of promoting a closer relation between what you want to do and what you ought to do. They are calculated to break down the line between "curricular" and "extra-curricular" activities, by introducing the extra-curricular

[1] *School and Society*, vol. 21, no. 547, pp. 732–3.

spirit into the curricular subject-matter. It is hoped that the day may come when the under-graduate will get as much "kick" out of adventuring in the arts and humanities as the assistant-manager candidates now get out of piling footballs on the side-lines or removing the shin-guards from the varsity catcher.

Surely it is not reasonable to suppose that intelligent college faculties who are busy making such adjustments as these in their own curriculum practices would willingly stifle an institution of such promise as the junior high school. This would be impossible to believe if one could be sure that college faculties realized that not everybody goes to college. Great as has been the growth of college enrollments, it is still true that for every 1,000 students enrolled in the first five grades, 342 enter the conventional high school, 139 graduate from high school, and 72 go on to college.[1] If college faculties believe in the new curriculum for the 72, then they surely cannot knowingly deny it to the 928 who do not go to college.

As a matter of fact, it is not good intentions or intelligence that is lacking; it is a dynamic drive to overcome the traditional self-complacency of their committees on admission or whoever may be responsible for the nineteenth century mind-set.

The Qualities Desired in Its Students by the College Are the Very Ones Which Junior High Schools Endeavor to Promote. One is in danger of personifying a college, of course; but it does give one pause to read a statement by a college president complaining that college freshmen cannot read a book, but must be given assignments of pages or even paragraphs. In another complaint, the same college president says:

Credits for courses, as an equivalent or substitute for knowledge, are coming to be recognized as one of the gravest mala-

[1] "Accredited Secondary Schools in the U. S.," Bureau of Education, 1925, p. 1.

dies in American education, for which the college, and even the graduate schools, are largely responsible.

In so far as President Lowell speaks for colleges in general this frank recognition of the college's sins should be salutary. Some progress has been made in encouraging pupils to strive for power rather than for credits. The *intent* of the "New Plan" for admission to college by which candidates take four comprehensive examinations is wholly commendable. In English and in some foreign languages these comprehensive examinations do measure power rather than mere information. In history and the sciences, the College Entrance Examination Board has been unable, even after fifteen years, to develop satisfactory comprehensive examinations.

Nevertheless, the colleges, including Harvard, put such stress on the high school marks and credits, even for its "new plan" candidates, that the commendable *intent* does little to alter the unsatisfactory condition. Pupils learn the reactions to which they give birth and no others; boys learn to pitch baseball by practice with satisfaction in controlling the ball. And the boy or girl who practices the doing of daily assignments in history and Latin in order to satisfy the teacher so as to get marks that will get him into Harvard or her into Smith learns to study assignments and to be satisfied with marks as a substitute for knowledge.

In effect, what *is* the constant appeal and drive of college preparation? Persistently and compellingly it speaks to the pupils thus: Get your Latin, get your Latin—never mind the sunset, never mind the fact that your tired mother is washing the dishes. Twenty lines of Latin or you will flunk in class to-morrow! Get your mathematics—forget the needs of your sick sister. Compete! compete! Beat somebody for a place in the upper fifteen per cent; to help your neighbor is cheating,

and anyway your job is to beat him, not to co-operate with him. Grind your history, tabulate it, and memorize it. Cram it for examination purposes. What care you for the art exhibit, the current social problems, the textile strike? Grind, cram, stuff,—for what? For marks! *marks!* college entrance marks! Marks, not knowledge, is your goal. Memorize answers which will earn marks which alone will get you to college!!

Colleges have pretty definitely controlled secondary school practices up to, and including, the present. If, then, the colleges are not now satisfied with the motives and abilities of the students whom they are getting, would it not be wise for them to get out of the way, and to allow those who understand the education of young adolescents freedom to do the job?

"After all, why is knowledge so highly prized? Surely it is because of its power to throw light upon the problems of human life." [1] If the statement of the Harvard Student Council Committee on Education is correct, then in the name of purposeful knowledge the junior high school curriculum must not be distorted by the college examination preparatory incubus.

If the colleges wish young men and young women who seek knowledge, who seek answers to meaningful questions, then they should welcome the junior high school, encourage it, but keep their hands off. If the colleges prefer young men and young women who have the desire and the ability to carry out broadly conceived social-civic responsibilities, who engage in wholesome recreation and avocations, who have the desires and habits fundamental to maximum physical effi-

[1] Report of Harvard Student Council Committee on Education, 1926, Section VII.

ciency, and who are intelligently preparing themselves for their vocations, then the college will join hands whole-heartedly with those who are responsible for the development of the junior high school. For in this new school are such traits nurtured by precise practices and in social settings.

CHAPTER XVIII

ARTICULATION OF THE JUNIOR HIGH SCHOOL

In twentieth century America adaptation and constant change of all social agencies are inevitable. Nevertheless, it is characteristic of human institutions as it is of individuals that, however consciously they may adapt themselves to new conditions, they are somewhat intolerant of changes in other institutions and persons.

The curriculum of the college has expanded amazingly until it comprehends music and art and economics and engineering and commerce and domestic science and agriculture in addition to the academic branches. College institutional life is properly dominated by student activities; faculty members generally encourage and co-operate with all educative student organizations.

Nevertheless, college officers are frequently found to range themselves on the side of the academic conservatives who think in terms of a high school curriculum made up chiefly of languages and mathematics supplemented by a little history and laboratory science. The newer subjects in the high school curriculum and student-participation in the life of the school are seldom given more than grudging recognition, though these aspects of high school education are far more truly preparatory for successful college life than are academic subjects.[1] Even Dean Corwin of Yale, who is truly liberal in his

[1] *Harvard Alumni Bulletin*, Dec. 13, 1928, p. 346.
At Harvard, for example, the combined field of history, government, and economics is by far the largest in the college; 775 members of the three upper classes are enrolled in that division, and it has had a steady gain since 1926.
The statistics about the fields of concentration chosen by members of the class of 1931 give the number of men in the different fields as follows: Eco-

relations with secondary school officers, has not understood that the secondary school's enrichment of curriculum is in harmony with the college's own expansion. "About a generation ago," he says, "the high schools threw off what they regarded as the 'college yoke.' In their allegiance to the 'public,' they have equipped themselves with a bewildering array of 'subjects' in which the old classics are lost in a vegetative proliferation of courses in 'home making,' 'current events,' 'advanced foods,' 'elementary clothing,' 'window displays,' etc."[1]

Junior High School Adjustments Are Similar to Those of the Senior High School. Senior high school faculties are truly making radical revisions in their own curriculum-practices. They are, nevertheless, too often unsympathetic in their attitudes toward the junior high school teachers who are endeavoring to work out their own immediate problems of adaptation to the needs of heterogeneous masses of pupils. Senior high school administrators and teachers feel themselves to be closer to the firing line of public criticism if pupils are not able to enter the colleges which some parents choose for their children. These teachers are often restive under the pressure of ever more rigid standards in college entrance examinations, and they feel the competition for their pupils' time and interests which is inherent in a mechanical civilization and a socialized high school.

nomics, 151; English, 121; History, 87; Romance Languages, 82; Fine Arts, 51; Biochemical Sciences, 47; History and Literature, 41; Government, 37; Chemistry, 35; Mathematics, 30; Physics, 21; Classics, 19; Geology, 18; German, 17; Biology, 16; Philosophy and Psychology, 13; Engineering Sciences, 12; Psychology, 10; Music, 8; Sociology and Social Ethics, 8; Anthropology, 7; Literature, 7; Semitic Languages, 1."

Thus in all foreign language fields only 119 men "concentrated"; in mathematics only 30; whereas 301 chose social sciences and literature, and 137 the natural sciences.

[1] Corwin, Robert N.: "Admission to Yale." *Alumni Weekly*, April 16, 1926.

Hence, they sometimes urge that the junior high school assume a share of the burden of teaching *all children* the same abstract, verbal responses which the senior high school seeks somewhat ineffectually to require its academic college preparatory pupils to master. The futility and viciousness of this procedure are not easily seen by those who are not actually dealing with junior high school children.

Latin and algebra and grammar in the junior high school are seldom taught to the satisfaction of all senior high school teachers. These abstract subjects are not only difficult for children of low intelligence, but in the senior high school they are frequently taught so as to be stupid and meaningless even for intelligent children. It would be vain for junior high schools to repeat the mistakes which underlie the failure of the senior high schools. Such a silly procedure is, nevertheless, what many high school teachers urge when they demand "Latin with teeth in it" and "more drill in algebra."

A very able teacher of high school mathematics came into a superintendent's office a few years ago to say that he had found what was the trouble with pupils who came from the grammar schools. His diagnosis was that they needed more drill. After a conference, he decided to investigate further. His final conclusion was that the pupils had had too much drill, resulting in a lack of ability to think through mathematical problems. The trouble seemed to be too much "model work" and too many problems "like the one at the top of the page."[1]

Failure to think through the actual needs of pupils in both schools becomes positively vicious in some cases. In one junior high school, the guidance program was so effective that only

[1] Cf. Bosshart, John: "Junior High School Clearing House," September, 1928.

forty per cent of the pupils elected tenth grade mathematics. Many, perhaps most, of the pupils who discontinued mathematics would have failed in the advanced course. This would seem to be a triumph for the guidance system. Nevertheless, the junior high school was submitted to sharp criticism from some influential high school teachers because it had not guided these children into failure!

The junior high school administrator in this case and perhaps in other cases is not necessarily blameless. Not enough effort had been made, perhaps, to help the senior high school faculty to appreciate what was going to happen. Such a preparation for adequate adjustments is important. If committees of junior and senior high school teachers can meet with the principals of the two schools and with the superintendent, probable effects of the junior high school's program may be foreseen and discounted.

Junior high school teachers of academic subjects should be ready to set forth in such committee conferences certain degrees of adequacy in specific informations and skills that can be objectively tested, for which the junior high school will accept responsibility for every pupil to whom it grants an unconditional "pass." Such objective evidence should accompany the pupil's record which is transmitted to the senior high school. If these standards are adequate in the opinion of the committees, then the junior high school is armed with objective data, in case the adequacy of its preparation is challenged.

Thus in one city, the administrative officers and Latin teachers of both junior and senior high schools have set up the ability to translate Cæsar's "Commentaries," Book II, as presented in Richie's "Preparatory Cæsar" as a satisfactory level of accomplishment for pupils who are approved by

the junior high school Latin teacher to elect second year Latin. The implied functional knowledge of vocabulary and grammar is taken for granted, if pupils can translate acceptably. Senior high school teachers hold themselves responsible for teaching grammar rules, declensions and conjugations, and synopses in the form in which they wish the pupils to be able to recite them. This may or may not be a wise division of responsibility, but it does present misunderstandings which might otherwise develop if second year Latin pupils were unable to recite Latin forms in the abstract organizations often required by senior high school Latin teachers.

In the same city, "minimal essentials" were set down for general mathematics; the algebra content of this subject, it was agreed, would be tested by the Rugg-Clark and Hotz tests, and a record of the scores made would be sent to the senior high school for each pupil who was recommended for second year mathematics. This step effectually put an end to complaints by senior high school mathematics teachers that pupils who had substituted general mathematics for first year algebra were deficient in technical processes.

The adjustments made for English and social studies had different bases. The heads of these departments in the senior high school concerned, both men of broad outlook and sound educational philosophy, themselves taught the tenth grade pupils who were "transferred" or conditionally promoted from the junior high school to the senior high school. Since all the difficult questions regarding the articulation of tenth grade English and social studies concerned the dull-normal pupils, this adjustment prevented any recurrence of misunderstandings.

The unitary and elective character of the natural sciences made special adjustments unnecessary in this field. In mod-

ern languages, in commercial subjects, in home economics and industrial arts, and in art and music, the scope and methods of teachers in both senior and junior high schools were similar so that misunderstandings and unsympathetic criticisms were rare.

Such plans as those just described work well when the principals of both schools have mutual confidence and a willingness to forestall all avoidable difficulties by constructive measures. In cases where the two schools occupy one building, or where one man is principal of both schools, adjustments are even simpler.

The Acceptance of a Comprehensive Philosophy of Education by High School Faculties Is Essential. Real difficulties arise only when foresight is lacking on the part of one administrator or the other, or when an intrenched and irrepressible senior high school faculty carries over a philosophy of education of an earlier generation.

Many such high school teachers misunderstand the nature of the educational problems which they are called upon to meet. As a result they are impatient with the institutions which are unavoidably concerned with the new problems involved in universal education, and would attempt to get rid of the cause by crippling or destroying the instrument.

They are like the Brahman of whom Glenn Frank has told. During a cholera epidemic a British scientist sought the assistance of an influential Brahman, and showed him through a microscope a sample of the water of the sacred Ganges swarming with cholera germs. "I can show you how to destroy the microbes with ease," said the Brahman, and seizing the microscope, he shattered it on the stones at his feet. If the junior high school exposes our educational shortcomings and disturbs our peace of mind, according to many senior

high school people, we can remove all these difficulties by smashing the instrument—let us destroy the experimental nature of the junior high school!

As senior high school faculties come to be recruited from among junior high school teachers—a tendency which is apparently increasing—misunderstandings will decrease. Meantime, however, it is a function of superintendents and principals to help the senior high school teachers to appreciate the growing diversity of pupils who are remaining in school beyond their fourteenth birthdays. Thus, they may come to realize that the major functions of the lower school are to encourage for each pupil the kind of activities which will challenge him to put forth his greatest effort, and to help him to succeed whenever he tries earnestly.

For junior and senior high schools have the same major purposes. Most teachers in both schools, when they are not abnormally afraid of college entrance requirements, have the same desires for their pupils. And these purposes and desires conform to the objects for which the community establishes and supports both institutions. Like democracy itself, the school from kindergarten to college aims to help every individual pupil to achieve a worthy social self through domestic, civic, and economic efficiency, through worthy uses of leisure time, and through good-will toward all men.

It is obviously essential that senior high school principals should, so far as possible, assign those tenth grade subjects which generally are commenced in junior high school and continued in the upper grades to tolerant and superior teachers. Such teachers would be able to understand the community's school policy, and would be able and ready to adjust their content and method to whatever program the senior and junior high schools had adopted after conferences and

mutual agreement. Difficulties would arise from time to time and these would be made the basis for further discussions. If the ninth grade and tenth grade teachers of continued subjects seek solutions honestly with the encouragement of the junior high school and senior high school principals, satisfactory articulations are not difficult to make.

Senior high schools will need to organize beginning courses in all foreign languages and formal mathematics. Not only will many pupils wish to elect these subjects for the first time when they enter the tenth grade, but there may be pupils who will need to repeat or complete such first courses after they reach the senior high school. In these regards the combined junior-senior high school has an obvious advantage over the separated schools. In such schools the same teacher may instruct both ninth and tenth grade classes in each continued subject, so that misunderstandings are eliminated and articulations are simplified.

Pathways Through Junior and Senior High Schools. Many of the unsatisfactory adjustments between junior and senior high schools are the inevitable results of the impact of the junior high school's experimental educational program on the rather rigid organization of the four-year high school. Dr. George Wheeler, Associate Superintendent of Schools of Philadelphia, Pennsylvania, has compared the present articulation status to a crate containing live lobsters, wherein each one has seized rather blindly whatever part of the anatomy of its neighbor it has chanced to reach. So long as nothing further disturbs the crate, each simply holds on peaceably enough. But if one new lobster is dropped into the crate, the whole scramble will begin again—clawing and nipping and pushing and shoving until another chance hold is obtained. In similar manner, each time that an unstable "armed peace"

is established by the two schools, an industrial society introduces a new problem, and a great scrambling and clawing among faculties and administrators begins again.

The need of a clear statement explaining the functions and relationships of the various departments of the two schools seems obvious. And yet it is seldom that the principal either of the junior or of the senior high school has any clear idea of just what is expected by the Superintendent or the Board of Education from his school. Indeed, these latter officers are often vague regarding the degree of autonomy and the proper functions of the high school units.

The faculties, the principals, the central office officials, and the patrons of the school are helped to compose their bewilderment by the publication and careful reiterated explanation of an adequate but simple diagram representing the articulation relationships of the elementary, junior high, and senior high schools. Such a diagram should give specific authoritative answers to the troublesome questions concerning articulation and "college preparation" which most frequently arise in the community.

A chart showing the articulations of the Blewett Junior High School and the Soldan Senior High School of St. Louis, Missouri, during the author's principalship of the former school, is here reproduced. The very reduction to diagrammatic form of formal verbal agreements between the officers of the two schools helps to make clear to all concerned just where difficult situations are likely to occur. It is then relatively easy to prevent misunderstandings regarding them.

The junior high school principal was authorized to *transfer* earnest junior high school pupils who had reached their sixteenth birthdays but whose scholarship did not warrant their formal promotion into the tenth grade. Such a *transfer* was

made on the recommendation of the pupil's adviser and grade administrator. No pupil was permitted to accept such a *transfer* unless both parents or guardians gave written consent to a limited curriculum in the tenth grade made up of English, industrial history, and commercial, fine arts, home economics, and manual arts electives. After a year in the senior high school these pupils might elect mathematics, foreign languages, and laboratory science *only if they had convinced the senior high school teachers of their probable success.*

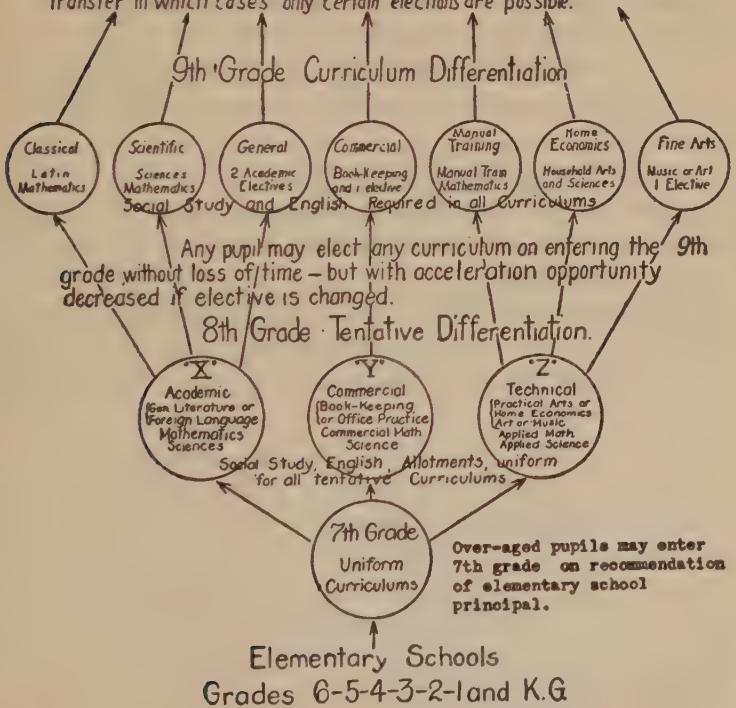
Cumulative Records Are Essential to Intelligent Articulation. If the junior and senior high school principals and faculties will pool their experiences through committees, an adequate cumulative record system can be worked out. Such a record system is valuable because its formulation and filling out encourages teachers to understand and appreciate the children and their problems. It is very helpful, too, in the advisement given to pupils and their parents by junior and senior high school teachers.

The record cards should contain information regarding the pupil's personality, adjustments in each grade, his social and health history, his scholarship record and his scores on intelligence, aptitude, and achievement tests (together with the median ranks of the class), and a statement of his aspirations for further education and vocation, together with such other information regarding attitudes, interests, and social home activities as may be gathered from inferences and inquiries.

Summary. Adequate articulation of junior and senior high schools becomes simplified just to the extent that the intelligent teachers in both institutions co-operate on the needed opportunities of growing children. For articulation is the interaction between the child and the school; desirable articu-

Except for Harvard, Yale, Princeton, Smith, Vassar Wellesley Radcliffe, Bryn Mawr, West Point, Annapolis, practically all colleges and normal schools accept graduates of Soldan High School if standing is satisfactory, without examination. Preparation for any college can be obtained in the regular time, if the start is made soon enough.

Grades	Soldan Senior High School
12th	Same curriculum as 9th grade
11th	12 units must be completed in Senior High
10th	School according to given conditions for graduation


Any pupil recommended by Junior High School is admitted to any curriculum in the Senior High School unless "promoted by transfer" in which cases only certain elections are possible.
9th Grade Curriculum Differentiation
Classical Latin Mathematics
Scientific Sciences Mathematics
General 2 Academic Electives
Commercial Book-keeping and 1 elective
Manual Training Manual Train Mathematics
Home Economics Household Arts and Sciences
Fine Arts Music or Art 1 Elective
Social Study and English Required in all Curriculums
Any pupil may elect any curriculum on entering the 9th grade without loss of time – but with acceleration opportunity decreased if elective is changed.
8th Grade Tentative Differentiation.
"X" Academic (Gen Literature or Foreign Language Mathematics Sciences
"Y" Commercial (Book-Keeping or Office Practice Commercial Math Science
"Z" Technical (Practical Arts or Home Economics Art or Music Applied Math Applied Science
Social Study, English, Allotments, uniform for all tentative Curriculums
7th Grade Uniform Curriculums
Over-aged pupils may enter 7th grade on recommendation of elementary school principal.
Elementary Schools
Grades 6-5-4-3-2-1 and K.G.

lation is achieved if both schools so shape their educational practices that there is no unnecessary interruption to the continuity of the child's mental, physical, and social growth. When the teachers of both schools appreciate that associational living, civic attitudes, health, the language arts, appreciations, and practical arts are functional objectives, not just pious aspirations, articulation will take care of itself.

All who are concerned with the problem of articulation should face frankly the present situation and probable future developments of the organization of secondary education. Among those factors which condition the solution of the problem of articulation are the following:

(1) The senior high school is faced by community demands that are so contradictory and insistent as to be almost overwhelming.

(2) The conventional four-year high school is so bound by tradition and selection of teachers, that it cannot be expected through internal enterprise to adjust itself rapidly to these community demands.

(3) A few pioneering four-year and senior high schools are proving themselves resourceful and intelligent in modifying both curriculum and administration to meet the challenges of the times.

(4) The junior high school has the great advantages of youth and flexibility; if it does not contribute to the solution of the problems which underlie its inception and development, its sponsors must be condemned as inefficient and unworthy.

(5) As soon as and to the extent that the four-year and senior high schools face the problems involved in community adjustment, then the adjustments to the junior high school will be of minor importance.

(6) When this time comes the normal secondary institu-

tion that may be common will be a six-year or a five-year or perhaps even a four-year junior high school.

The junior-senior high school is being sufficiently often developed to assure that it can be successful if it can be guided and taught by resourceful persons of social insight. It is common in villages and rural school districts, and in New York City, Rochester, Okmulgee, Minneapolis, and elsewhere it has been successful. In Rochester its outstanding success has been in large part due to the gradual upward extension of the junior high school until it became a junior-senior high school, with teachers the majority of whom were drawn from the grades, experienced in junior high school, and then given classes of senior high school students. In such a school there are still many unsettled problems, but it may safely be asserted that those which do exist are professional ones. The irritating criticisms and misunderstandings that cause so much unhappiness have disappeared.

In such a school, situations typical of social life are reproduced and boys and girls of all stages of adolescence learn life by living it. It is indeed a typical embryonic community in which is assured to every boy and girl an abundant life.

CHAPTER XIX

THE ADMINISTRATION OF THE CURRICULUM

The general plan of curriculum arrangement from the primary grades through the graduate school of the university, is characterized by ever-increasing specialization and differentiation. The primary grades have the double function of (1) *social integration* through group play-work undertakings and the command of the rudiments of school tools, and (2) the *integration of each child's personality* through the pupils' successful participations in activities, both as individuals and as groups. These functions are fulfilled, however, almost entirely through activities which are common in scope to all primary pupils. Differentiation appears as the result of the interaction of the individual children with the interests, approvals, and tolerances of the group. Thus, in a class project in home geography, one or several children may wish to construct a subway or a canal; others may prefer to draw pictures or to tell about what they have seen or to ask and answer questions. The project content is universal; the project outcomes are to a great extent individualistic.

In the graduate schools of the university, however, each school is organized for a specific field of instruction. Differentiation is thus the marked characteristic of advanced education. There is, nevertheless, a considerable integration of experience which is promoted, partly in spite of and partly because of this differentiation. Thus, students read books and articles which deal with sports, philosophy, engineering feats,

politics, drama, and warfare, whether they are law students or medical students. In conversations with others not in their special fields, they frequently discuss the other students' fields for the very reason that these aspects of life are not well known except to the specialists.

The common integrating education of the lower grades, at one extreme, and the differentiated education of the graduate schools, at the other extreme, are promoted by the formal curriculum plans. Differentiation in the lower grades and integration in the upper reaches of the educative process are rather incidental to the formal aims—though the value of these incidental outcomes is generally recognized.

Intermediate between the primary grades and the graduate schools stands secondary education, the first section of which, the junior high school, is our immediate problem. The curriculum plan of this school should continue in a decreasing degree the common integrating function of the elementary school, and should give reciprocally increasing opportunity for formal differentiation. In its integrating aspects, it should encourage incidental differentiation among individuals, however, and in its differentiating "subjects," it should promote social integrations through the exploitation of special skills and knowledges for the common good.

It may be that formal differentiation is delayed longer than it should be; some conservatives, especially college administrators, seem to believe, however, that differentiation should not be attempted until the college level.[1] Be that as it may, differentiation is an outstanding characteristic function of all

[1] Cf. Morrison, H. C.: "Readjustment of Our Fundamental Schools." *School Review*, vol. 31, no. 7, Sept., 1903.
Lowell, A. L.: "Address before Department of Superintendence," N. E. A., Boston, March, 1928.
Learned, W. S.: "Program for a Study of the Relations of Secondary and Higher Education." Carnegie Foundation, 1927.

progressive junior high schools, and will, doubtless, continue to be so.

In planning the program of studies, therefore, the seventh grade functions may be thought of as integration, adjustment, and exploration. The eighth grade functions vary from those of the seventh grade in emphases; for integration and adjustment may be expected to have achieved sufficient momentum in the seventh grade to carry themselves along; whereas, exploration, experimentation, and tentative differentiation become increasingly important. In the ninth grade, differentiation becomes more adequate for pupils who have successfully adjusted themselves and explored the possibilities for earnest, intensive, joyous work; for those who have made mistakes or who have not yet found themselves, the exploratory and adjustment functions remain very important. Through such orientation it is expected that pupils will enter senior high school with a maturing purpose, with a definite, though tentative, plan, and with freedom to carry it to fulfillment in senior high school, college, and graduate school, if so long a course is necessary or desirable.

What Price Subject Organization? Under the ministrations of very intelligent teachers who were so ideally balanced in their own interests and enthusiasms that they could inspire and guide equally well the efforts of all pupils, subjects as such might perhaps be done away with entirely. In some extreme experimental schools an approach is made to this condition, particularly in the primary grades. Bode in his chapter on "Educational Values"[1] seems inclined to favor such a practice; at least, he emphasizes the danger of setting up special objectives for special subjects. He asserts that if we set sociability as *the* goal for history and political science, and

[1] Bode, Boyd H.: "Fundamentals of Education." The Macmillan Co., 1921.

scientific method as *the* goal for physical science, we leave no place for beauty as a desirable aim for these subjects and, hence, "what we have left is science made dismal." "If it be granted," he continues, "that a single subject will ordinarily serve for the realization of various objectives, the whole perspective changes. The objectives are then used to get as rich a meaning as possible out of the subjects, which means that they become hints or indications to the various possible meanings."

In the arrangement of curriculum divisions or "subjects" proposed in this volume, a middle ground is sought between the single objective for each subject with no enriching aims, on the one hand, and the complete academic anarchy into which Professor Bode's implications would lead us, on the other hand. The position taken here is that every curriculum division should have a major social aim in the accomplishment of which it will inevitably contribute constantly to the attainment of most, if not all, of the aims of the entire curriculum. Thus, the provisions for associational living have behavior and emotionalized attitudes necessary to adequate democratic group life as major objectives, but important contributions to civic understanding, to physical and mental health, to language arts, to scientific thought, to appreciations, and to practical arts are inevitable outcomes to the extent that the major objective is itself attained. Similar results will ensue from the attainment of the major objectives of each of the other proposed curriculum divisions.

If this reasoning is sound, there remains the question of the relative allotment of time in the schedule to each of the curriculum divisions. The "right" amount of time cannot be stated for any given school. Previous training of the pupils, their social backgrounds, their biological inheritances, their

probable future education and occupations are too varied to make any general estimate of other than suggestive value.

How Should Time Allotments Be Determined? In planning a suggestive program of studies for the junior high school, some typical conditions must be taken for granted. We may assume reasonable outcomes of a six grade elementary school for the majority of the pupils. Let us anticipate the re-enforcements and interferences of out-of-school education of a typical suburban community in which at least half of the children have English-speaking parents; at least half come from homes in which honesty, courtesy, participation in home-making, and sex virtue are respected; at least half come from neighborhoods where destruction of property, corner loafing, rowdyism, and recklessness are not countenanced; at least half are clothed and fed with reasonable care and intelligence; and at least half have some interest in reading, music, in appearance of home grounds, and in civic and religious institutions. We may then set forth a reasonable time allotment for the majority of pupils. Such an allotment would be varied by administrative adjustments for those pupils who do not conform to the majority in resources and needs.

Before we proceed to such a discussion, however, two common dangers must be emphasized. The first is that whatever allotment of time is tentatively set up in a school will tend rapidly to crystallize into a permanent arrangement, because it will become a "vested interest" for some teachers. The second is the fallacy that increased time allowance will result in increased learning. Ever since Rice's investigation of spelling at the turn of the century this has been known to be a fallacy.[1] It is, nevertheless, the underlying assumption of the

[1] Cf. Rice, J. M.: "Scientific Management in Education." Publishers Printing Co., 1913.

demands for increased time allowance for the school arts in schools in which results are not satisfactory. Some minimum of time for "fundamentals" there is, no doubt, to give less than which will result in deterioration in needed skills and knowledges. And there is also some maximum to give more than which is to waste the time of both pupils and teacher.

For the purposes of this chapter, there is assumed a general arrangement of core-curriculum objectives and activities, provisions for overcoming marked disabilities, and opportunities for the election of academic subjects, and creative, commercial, and industrial arts, such as has been set forth in this volume. Account is taken, however, of the fact that faculties which accept the desirability of the plan and wish to adopt it for their schools will often be obliged to do so gradually and somewhat cautiously.

Section I. A Workable Junior High School Program of Studies. A thirty-period week is desirable though it is not quite necessary. Each period should approximate an hour in length, though forty-five-minute periods are not too brief for the success of the plan. Homogeneous grouping of pupils for the curriculum units in which they must read reflectively or in which abstract verbal reasoning plays a large part is helpful, but the plan will work about as well in schools which find homogeneous grouping impracticable or undesirable. *Rigid departmentalization of instruction and rigid grading of pupils are both undesirable* for the purposes of this program; so in this respect the small junior high school is at no disadvantage in comparison with the large organizations.

Indeed, the junior high school should be conceived to be a unit. For the core-curriculum experiences, there is little sequence. There is little need for a high degree of subject specialization in teacher-preparation; rather is specialization in

child guidance needed. There is not much reason for grade differentiation in the language arts or in appreciations or in practical arts or in health practices. Some allowance is necessary for increasing maturity, but seventh grade activities in singing, in setting panes of glass, in writing letters, and in selecting luncheons do not differ materially from those of the eighth and ninth grades. Even in civic intelligence and scientific interests and enthusiasms, while cumulative learning perhaps implies more need for grade divisions than in the other divisions of the core-curriculum, a considerable degree of flexibility in grade placement of topics or projects is surely justifiable.

For the school which finds it quite convenient to separate classes by grades, an approximation of the following time allotments of the thirty periods is suggested.[1] In the seventh grade adjustment and advisement are paramount; one full period daily should, therefore, be assigned for associational living under the direction of the home-room teacher, one period a week for club meetings, and one period for assembly —a total of seven periods. Five periods a week may be assigned to the promotion of civic intelligence and attitudes. Five periods will probably be needed for the promotion of scientific interests and related mathematics. Three periods a week are sufficient for language arts, except perhaps in a district where the population is largely of foreign extraction. Three periods are ample for health activities. Four periods a week for appreciations and three for practical arts would complete the week's work for those pupils who do not need special

[1] The assumptions regarding the community in which the school is situated should be kept in mind. They are given earlier in this chapter. In a community in which conditions are different, this model time allotment would, of course, be modified.

help in the fundamental skills or knowledges, or who are not in need of special corrective health practices.

Pupils who do have such special needs may be placed temporarily in a full-time class for corrective practices, permitting the teacher of the special class to make time-adjustments in harmony with those set down above, but adapted to the needs of the children so assigned. Or they may be assigned to a restoratory group which meets several periods a week at the same hours as appreciations and practical arts classes.

No provision need be made for electives during the seventh grade, unless there are considerable numbers of over-aged pupils who are about to leave school to go to work. For them, elections in industrial arts, perhaps in vocational preparation, should be permitted in place of home-room, science, and practical arts prescriptions.

A week's schedule for the seventh grade might then be something like the following:

PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1.....	Social Study	do.	do.	do.	do.
2.....	Exact Science	do.	do.	do.	do.
3.....	Language Arts	Health	Language Arts	Health	Language Arts
4.....	Home-room	do.	do.	do.	do.
5.....	Appreciations Special Help Class	do.	Health Health Clinic	Appreciations	Appreciations Special Help Class
6.....	Practical Arts Special Help Class	Clubs	Practical Arts Health Clinic	Assembly	Practical Arts Special Help Class

The arrangement of periods during the day or on days of the week is not very significant. Obviously in the large school the scheduling of sections would make the daily assignments for the third, fifth, and seventh periods vary. In the third period, some groups would have health activities Tuesday and Thursday; some on Monday and Wednesday. In the fifth period, some groups would have health class on Wednesday, some on Tuesday, some on another day; appreciation days would vary accordingly. The sixth period would have to be more rigid, however, because regular periods would have to be assigned for assembly and clubs when all seventh grade pupils could attend. It would, however, be quite feasible to interchange fifth period assignments and sixth period assignments, if schedule-making were simplified thereby. Practical arts, club meetings, and assembly have been placed in the last period because this arrangement permits a little more flexibility; these activities may be permitted to run over the allotted closing time, if pupils and teacher so desire, without interfering unduly with other activities provided by the school.

"Special help" groups for pupils who have specific and relatively slight disabilities in school arts might meet Mondays and Fridays at the same hours as appreciations and practical arts classes. Similarly, squads for corrective gymnastics or other special health instruction might meet on Wednesdays at the same hours as the regular health instruction class and the practical arts class. Pupils assigned for a few weeks to such a class would miss several appreciation lessons and practical arts periods; there is, however, so little need for sequential exercises in these subjects that the pupils should have little difficulty in rejoining the class when they have overcome their deficiencies in the fundamentals. If defects are so gross that a few weeks of coaching will not suffice,

pupils would, of course, be assigned to a regular full-time special help class.

The home-room advisory period is put in the middle of the day, because this period frequently corresponds to a lunch period when regular class work is likely to drag. The home-room period is generally so pleasurably exciting that neither the pangs of hunger, nor the satisfaction of a just-completed meal will markedly decrease its value.

The faculties of some junior high schools may believe that the pupil-needs in those institutions are such that a different arrangement of hours is more desirable or that time for special help of pupils with specific shortcomings should sacrifice other opportunities than appreciations and practical arts. If such judgment is surely based on reflective thinking and critical analyses of needs, then, of course, the local need should take precedence over a philosophy of administration so general as the one here set forth must be. Even if the faculty decision should be based on compromises of vested interests there would be much to say for its acceptance, especially if any such arrangement can be definitely understood to be tentative. Obviously, every administrative device should be open to challenge and re-evaluation. Tradition is against us in this, of course; for once a schedule is set up and a time allotment given to a subject or phase of activity, a long, hard struggle is frequently necessary to force a reconsideration of values.

In the eighth grade, the schedule would not be unlike that of the seventh, except that the daily home-room period would not be needed for pupils who had attained to reasonable self-adjustment during their seventh grade careers. On four days a week during the eighth grade, an elective should replace the home-room periods. This still would permit the students and

teacher to enjoy the friendly activities and confidences of the home-room for one period a week. In the eighth grade, too, the practical arts and appreciation opportunities might well be replaced with short unit broadening and finding ("B. & F.") courses[1] such as have been discussed in Chapter XI. A typical schedule for the eighth grade follows:

PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1.....	Exact Sciences	do.	do.	do.	do.
2.....	Language Arts	do.	Health	Language Arts	Health
3.....	Home-room	Elective	do.	do.	do.
4.....	B. & F. Courses	do.	do. (Special Help Classes)	do.	do.
5.....	Social Study	do.	B. & F. Courses	B. & F. Courses	Social Study
6.....	Health	Clubs	Social Study	Social Study	Assembly

To a considerable extent the shifting of periods from the seventh grade schedule for exact science, language arts, and social studies has been done merely to show that the arrangement proposed does not conflict with unavoidable departmentalization of instruction. In very large schools, it may be necessary to employ such a device in changing schedules every semester. By having all parallel eighth grade social study classes meet at the same period, however, great flexibility in grouping pupils of uneven advancement is made

[1] Cf. Bruner, H. B.: "The Junior High School at Work." Teachers College, Contributions to Education No. 117, 1925. A full explanation of the "Broadening and Finding Courses" developed in the Okmulgee, Okla., Junior-Senior High School.

possible. This is equally true if all science classes meet at one period and all language arts classes at another. With this schedule arrangement, a pupil who is weak in science but very strong in social study and language arts can meet with a less able group in science and with more brilliant groups in social science and language arts.

If an even more nearly complete departmentalization in each semester or grade is unavoidable, the periods here allotted to these three subjects must be "staggered" so that Teacher A who can teach nothing but social studies may be given one section the first period, one section the second, and one the fifth and sixth, while Teacher B who can teach nothing but language arts may be assigned other sections of pupils the first, second, and fifth and sixth periods, and Teacher C who specializes in science may take other sections of pupils these same periods. If teachers can be obtained who are able to teach two subjects, drastic complications will be unnecessary in a school of any size.

Every effort should be made to schedule all sections of a grade (in large schools of a half-grade) in electives, broadening and finding opportunities, clubs, and assembly for the same periods. For, in these opportunities, pupils should not be restricted by such purely administrative interferences as period conflicts.

The ninth grade schedule follows the same general plan, except that the prescription of subjects is even less rigid. In view of almost universal lacks in human adjustment, all pupils should probably be required to engage in social study, science, and health activities, and those whose language expression is inadequate should find language arts prescribed. Two elective subjects coming four periods a week each should be open to all pupils, and for those who speak and write ade-

quately, a third elective might be permitted. A typical schedule follows:

PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1.....	Elective	do.	Health Instruction	Elective	do.
2.....	Social Study	do.	do.	do.	do.
3.....	Home-room	Elective	do.	do.	do.
4.....	B. & F. or Elective	do.	do. (Special Help Classes)	do.	do.
5.....	Science	Health	Science	Health	Science
6.....	Language Arts or Elective	Clubs	Assembly	Language Arts or Elective	do.

Adapations Are Necessary for Schools in Industrial and Rural Communities. Obviously, the schedule suggested above could not and should not be applied in many schools as they stand. The size of the school and the needs of the pupil groups must be studied. A school in a foreign quarter may find it necessary to increase the language arts prescription, *if all pupils are markedly inadequate* in verbal expression. The small school can utilize a much more simple curriculum arrangement. The large school may, as has been already pointed out, vary the arrangement so as not to have more pupils assigned for a subject in any one period than there are available teachers and special rooms for them. Such administrative adaptations can only be indicated in a general treatment such as this.

In the small school there is little need of strict grade divisions in core-curriculum subjects. Grade distinctions in functional activities are mere conveniences for grouping large numbers of pupils. In language arts, in the simulation and

direction of scientific interests, in health activities and instruction, in appreciations, in practical arts, and in provisions for overcoming fundamental deficiencies, there is very little distinction between desirable activities for twelve-year-old children and for fifteen-year-olds; still less is there any valid distinction between grades each of which so often contains pupils of different ages. The traditional content-nature of social studies is such that there may be more difficulty in grouping pupils of different grades together lest they repeat certain aspects which they already have had and are denied experiences with epochs or aspects which a more logical organization would perhaps assure. Even this difficulty can be largely overcome, however, by the device of alternating by years the content of the social study course.

In the small junior high school of a hundred pupils or less, the schedule given above for the seventh grade may be taken as a pattern for the entire school, except that eighth and ninth grade pupils would be permitted to substitute electives for the home-room period four days a week, and to substitute for appreciations and practical arts, individual broadening and finding projects in music, art, creative writing, industrial arts, commercial arts, and any other approvable activities in which they may wish to engage, and for which they or the school can provide opportunities and oversight.

Facilities for art work, for instrumental music or glee club, for library practice, for horticulture, for mechanics, for sewing and cooking, for reading, for dramatics, for preparing for Scout tests, and for commercial arts are available in many schools or in near-by homes or stores. There is no need of a formal teacher assignment for every such activity undertaken by one or several pupils. It is, of course, desirable for some teacher to have general oversight of every such project; his

approval of the plan of work of each individual or group would be necessary and he would check up the progress and reward the success of each pupil.

Can the Small Junior High School Use This Curriculum Plan? In order to make these suggestions somewhat more concrete, let us set down a possible schedule for a two-teacher junior high school of fifty pupils, in which Teacher A is assigned to teach social studies, language arts, girls' health, girls' practical arts, appreciations, and electives in foreign language, and to oversee the broadening and finding opportunities in literature and expressive arts, and Teacher B is assigned to teach science, language arts, boys' health, boys' practical arts, electives in science and mathematics, and to oversee the broadening and finding opportunities in commercial and industrial arts. In the schedule, the seventh grade and less mature eighth grade pupils are denoted by Roman I; other eighth grade and the ninth grade pupils are denoted by Roman II.

This schedule obviously requires that both teachers accept responsibilities for pupil activities every period; relief is possible through combining classes for some health activities, such as outdoor games, when one teacher could take charge and so relieve the other occasionally; similarly, the assembly would require the presence of only one of the teachers. Mutual accommodations of other kinds would very much relieve the pressure of duties under which the two teachers would find themselves.

Fortunately, there are few schools of fifty pupils with only two teachers which do not receive some relief in the form of part-time instructors who teach music or health or practical arts. Such help is distinctly to be welcomed, but it should certainly be built into the curriculum plan which will best

PERIOD	TEACHER	MONDAY	TEACHER	TUESDAY	TEACHER	WEDNESDAY	TEACHER	THURSDAY	TEACHER	FRIDAY
1.....	B A	Science I Social Study II	B A	do. do.	B A	do. do.	B A	do. do.	B A	do. do.
2.....	B A	Science II Social Study I	B A	do. do.	B A	do. do.	B A	do. do.	B A	do. do.
3.....	B A	Language Arts I Language Arts II	B A	Boys' Health Girls' Health	B A	Language Arts I Language Arts II	B A	Boys' Health Girls' Health	B A	Language Arts I Language Arts II
4.....	B A	Home-room I Home-room II	B A	do. B. & F. II Electives in Foreign Lang. or Lit.	B A	do. do. do.	B A	do. do. do.	B A	do. do. do.
5.....	B A	B. & F. II Electives in Science or Math. Appreciations I	B A	do. do. do. do.	B A	Health Instruction (Boys') Corrective Exercises (Boys') Health Instruction (Girls') Corrective Exercises (Girls')	B A	B. & F. II Electives in Science or Math. Appreciations I	B A	do. do. do.
6.....	B A	Practical Arts (Boys') Special Help I Practical Arts (Girls') Special Help for Lang. Arts II	B A	Clubs Clubs	B A	Practical Arts (Boys') Practical Arts (Girls')	B & A	A s s e m b l y	B A	Practical Arts (Boys') Special Help I Practical Arts (Girls) Special Help II

promote the growth of all the pupils. The special teacher must be helped to understand that, in the junior high school, subjects are instruments and the regular teachers must decide whether, on a given day, a pupil needs special practice in spelling instead of his practical arts work in shop.

Schools which are more adequately staffed will, obviously, find less difficulty in planning a schedule which will permit the teachers more nearly adequate free time. The schedule given above is intentionally selected because it illustrates a reasonable adjustment to conditions which are about as difficult as will ever be found. If a schedule can be worked out for such a school, it can easily be modified for conditions that are more favorable.

Special Help Opportunities for Pupils Whose Shortcomings Interfere with Success. No matter how crowded the schedule, every junior high school should make definite provision for helping pupils who have entered school late, who have been absent, or who have special disabilities, in order that they may overcome their deficiencies and so become adequate to take part successfully in their regular classes. Reasonable success for every pupil in all core-curriculum activities is a *sine qua non* of every junior high school worthy the name. Nothing less permanent than biological infirmity, such as defective eyesight, feeble-mindedness, or defective heart action, should ever cause the school to omit special help opportunities for maladjusted pupils.

In all the schedules set forth on the preceding pages, provisions have been made for periods when pupils may receive special help in the fundamental school arts and in corrective exercises for improving their physical adjustments. In the very small school such practices may have to be directed by a teacher who has other responsibilities at the same time. In

the larger school, the special help sections would, of course, be regularly assigned to patient, resourceful teachers.

If the number of pupils with deficiencies in several school arts is sufficiently great in any school, a special full-time section should be organized as suggested in Chapter X. One teacher should be responsible for this group, teaching them the language arts, arithmetic, social studies, and conducting home-room periods with them. He should also be in constant touch with their work in appreciations, practical arts, clubs, and health activities. He should make every effort to see to it that his pupils are successful not only in his own special help exercises, but especially in the activities in which they mingle with other pupils. His pupils should be helped to join regular classes as soon as possible.

The schedule arrangement for such a full-time special help class would approximate that for any other section of the seventh grade. It is not more time on the fundamentals that is needed, so much as it is keener motivation, greater self-confidence, and friendly guidance.

Prevocational Opportunities in the Junior High School. Junior high schools which have large numbers of over-aged pupils or which are situated in States where pupils may leave school at fourteen to go to work, may have need of prevocational classes in general industry, agriculture, and commercial work for boys and for girls. In such cases, half the day is generally given to vocational training and half the day to related academic work. Such an arrangement does not, however, complicate schedule making; for a full-time instructor is generally provided who either teaches both aspects of the work or else sets free an academic teacher by taking practical arts classes or a commercial elective or some other subjects.

Curriculum-Planning for Varying Rates of Progress. One of the functions of the junior high school which has received

less stress in recent years than formerly has been the economy of time for the more able pupils, by permitting them to advance as rapidly as possible through the junior high school grades. Formalists who have thought of themselves as progressives have advocated the clumsy senior high school device of *promotion by subject*—which obviously means in practice *retardation by subject*. It functions desirably to make it possible for pupils who fail in one subject to be retarded only in that subject while progressing in all others.

Some theorists have been alarmed lest pupils be rushed through the school; they have called for greater enrichment of the curriculum in the strange hope that by increasing pupils' apperceptive masses, they can be slowed up! In practice, however, it is found that the pupils who advance into high school more rapidly get higher marks, get the richer experiences, and are intellectually more alert than the pupils of equivalent abilities who progress normally.[1]

Whether pupils should be encouraged to advance more rapidly than normal allows, however, of no general answer. Pupils who are over-aged but intellectually able should obviously be so encouraged. Pupils who are under-age, physically immature, or who would, for any reason, be socially maladjusted in the senior high school should obviously not be so encouraged.[2]

What is needed, however, is not any general policy of ac-

[1] Cf. *The School Review*, March, 1927, vol. 35, no. 3, editorial entitled "The Effect of Acceleration." This editorial is a résumé of a study made by C. H. Sackett, and published by the St. Louis Division of Tests and Measurements.

Ryan, H. H. and Crecelius, P.: "Ability Grouping in the Junior High School." Harcourt, Brace, 1927.

"Survey of the Junior High Schools," New York City, Board of Education, 1923.

[2] Cf. Ryan, H. H. and Crecelius, P.: "Ability Grouping in the Junior High School." Harcourt, Brace, 1927.

An exhaustive and very satisfactory discussion of many aspects of the education of pupils of differing abilities.

celeration or any general device such as promotion by subject. Advisement and guidance and flexibility of administration are necessary to make possible whatever promotion adjustment may be desirable.

In large schools there may be speed groups if considerable numbers of children and their parents desire rapid progress for their children. In small schools, individual promotions from less advanced to more advanced sections must take the place of speed grouping. When the attainment of traits replaces the covering of content as the aim of the various courses of study, such adjustments become relatively easy to make. With a core-curriculum such as we have been advocating in this volume, flexibility of promotion is very easily administered. For if language arts, health, associational living, civic intelligence, appreciations, scientific interests, and practical arts are attained in such degree that the pupil to be advanced will be reasonably successful in the practices demanded in the higher grade, it makes no difference whether he has covered certain grounds or not. A statement to shock the conservative because he does not distinguish between objectives and means! Since the purpose of covering ground is to accomplish objectives, then if the objectives have been accomplished by other means, the covering of ground is of very little significance.

CHAPTER XX

YOUTH AND THE FUTURE

The Cheshire Cat, you may remember, was directing Alice to the home of the Mad Hatter. "But I don't want to go among mad people," Alice protested.

"Oh, you can't help that," said the Cat. "We're all mad here. I'm mad. You're mad."

In the scramble to solve the problems of education of junior high school children, every one seems to be a little mad—some, very mad. The author of these pages recognizes that some of his proposals will strike many who are interested in the junior high school as unusual, extravagant, even fantastic. Every suggestion made must, however, be judged by its feasibility and reasonableness and necessity, not by its present conventional acceptance.

Nevertheless, nothing has been proposed in this volume that is not already being effectively carried out in practice in some successful junior high school. Nothing is suggested that is not justified by a sound philosophy of education and by the sciences of educational sociology and educational psychology. The changes in educational theory and practice which are even now taking place are revolutionary to a greater degree than many educators, even progressive educators, realize.

So long have the schools taught that many have come to identify teaching with education. But life also educates. Indeed, life alone educates. Teaching which does not reflect life is futile. Little of conventional teaching enlivens children. It but renders them docile and inert. In our efforts to improve our school for these children just entering adolescence, we

have rewritten our text-books and our courses of study. We have demanded that children learn their book-lessons—we have even injected these artificial tasks into the homes. We have built magnificent buildings and equipped them with libraries, auditoriums, swimming-pools, unilateral lighting, and special ventilating systems. We have frequently done everything but grasp the all-important facts that the building and the books and the courses of study are always incidental factors in education, and that creative experiences in which each child's urge for self-expression finds its opportunity, alone constitute positive education.[1]

To be adequate, to be competent, to be esteemed and to have self-esteem, to have an active part in life-affairs—thus only can one direct his own destiny. "The rulers of the State have said that only free men shall be educated, but God has said that only educated men shall be free." Democracy's junior high school accepts Epictetus' assertion; it endeavors to educate youth that it may be free.

Hence, its emphasis is on behavior rather than on verbal and intellectual responses, and on universal success rather than on scholastic standards. "For every death by typhoid fever, somebody ought to be hanged," it has been said. In the same sense, for every child who leaves school a self-recognized failure, somebody ought to be removed so that he can no longer distort child life and rob society of its human resources.

The confusion of education with intellectual training is the rock on which the junior high school has been in danger of foundering. Those in whom this confusion is extreme would give schooling to docile and verbal-minded children and would ruthlessly exclude all others.

[1] Cf. Hart, W. K.: "Light from the North." Introduction. Henry Holt & Co., 1926.

Emerson has told of a beach-comber who protested the erection of a light-house for fear it would decrease the wreckage. So these pedants view with alarm the changes in the core-curriculum of the junior high school and the new emphasis on behavior and advisement and successful adjustment. They complain that the pupils are being coddled, that the "iron" is being taken out of education, that failure and human wreckage are being decreased.

It is implicit in democracy and in Christian civilization, however, that an institution which seeks to compel any individual to pit himself against a job with which he cannot possibly succeed is, in this regard, a vicious and destructive agency. Human life is too precious for such ruthlessness.

This, however, is only one aspect of the results of the stupid process. That failure and self-pity result in perversion of personality, and that in compensating for his loss of self-respect, the child often seeks debauchery in gang life, in day-dreaming, in cruelty, and in exaggerated peculiarities—these are the more concrete and damning results of the practices of intellectualists.

A Better Civilization Depends on a Generation of Intelligent, Independent Consumers. American producers meet the demands of the market. This is true of luxuries and of recreations, of clothes and food, and of services of all kinds. The power of the purchaser is supreme in directing the economic and political developments of our industrialized nation. The schools have no obligation or opportunity more significant than that of supplying a generation of young people who will appreciate more substantial and beautiful products, who will find less attraction in the more lurid and flashy and brutal recreations, who will participate actively in community and individual leisure-time occupations, and who will discriminate

between skill, acumen, and fair dealing, on the one hand, and victory at any price, on the other.

In domestic affairs the worker on farm and in factory and in office will increasingly control the demand for products and services. How this economic surplus will be spent or invested and how he will bestow his approvals and patronage will determine our standards of sport, of culture, and of institutional life. Whatever he will support will flourish; whatever he will neglect will die. Whatever he will approve will be supreme; whatever he will disapprove must perish.

If then the school can promote effectively normal, happy, successful lives for an entire generation; if it can help children to find satisfaction and self-expression in worthy leisure occupations, in healthful human relationships of home and civic and vocational lives, and if it can promote universal good-will among all classes and creeds and races—if, in a word, it can promote the integration of individual and community lives—then will crime and lust and poverty and disease disappear. If it can help a generation to satisfy its longing for excitement and adventure in vigorous play, it will render innocuous the lurid drama and novel, the vicarious enjoyment of athletics, and the perverted demand for "wild" parties. If it can effectively encourage not only a toleration of but even an active approval of unique individual taste and behavior, it will undermine the conformity of fashions and amusements and appreciations.

Our conventional school curriculum practices have not dealt with life at all, even for those whom the school has reached. The great number of adolescents it has scarcely touched. Even though enrolled on the school register, most children have had no active share in the intellectual and spiritual life of the conventional classroom. Too frequently it

has had little such life for any one to share. In such schools teachers have been a class apart; no one has expected them to come to grips with the realities of life or to understand the lives of their children. They have lived in a world of grammar and declensions, of formulæ and processes, of drill and conformities. In such a world, doubt and queries and self-development have had no place. The teachers' bookish interests and the schools' artificial standards became the measure of all goodness and virtue.

In the emerging junior high school, however, teachers and classrooms are quite different. The big scholastic factory engaged in mass production at low cost is giving way to an individualized child-centric creative environment. Here, teachers come to deal with child-life and with that best democratic social inheritance—the right and duty of every one to examine life for himself, critically and tolerantly, and to adopt the ways of behaving most satisfying to him. Neither child nor teacher is expected to believe the same things except as their experiences with pictures and poems and history and science lead them to the same conclusions. Truth is no longer taught by superimposition and rote; it is discovered by self-activity and honest skepticism. Skilled artisan teachers are undergoing a metamorphosis; artists and thinkers are emerging.

From such teachers come forth those youths on whom the future depends. Intellectually and physically virile and independent they will hew out careers for themselves in spite of our mechanical and uniform civilization. And gradually, perhaps rapidly, they will modify that civilization. They will reward and patronize those whose services are honest and intelligent. Themselves relatively free from mental and emotional "kinks," they cannot be victimized by morbid excite-

ment or by gray conformity. Of politics, of industry and commerce, of professional services, they will demand openness and sincerity. Trickery, dishonesty, ignorance, intolerance, and selfish exploitation will disappear as the new school life emerges. And then will the blessings of liberty and the common welfare be supreme.

ASSIGNMENT PROBLEMS

CHAPTERS I–II

1. Characterize the trends of reform in the content and teaching methods of the junior high school subject with which you are best acquainted. Do these changes conform to the following Principles stated by Cox in his "Curriculum Adjustment in the Secondary School"?

> I. The secondary school curriculum comprises activities and experiences provided by the community through the school to prepare all the normal children of early adolescence for participation in civil life, and to secure for every individual the maximum self-realization consonant with the welfare of the group. This means, on the one hand, the selective preservation of the social inheritance; on the other, the gradual improvement of society.
>
> II. The secondary school program of studies must be so conceived and operated as to reinforce, guide, and direct the activities of pupils, both within the school and in relation to other educational activities outside the school.

2. What precise practices (pupil activities) preparatory for social efficiency, good-will, and worthy uses of leisure does the subject in which you are most interested assure to children of the junior high school?

3. Discuss the advantages and disadvantages of learning from textbooks from the point of view of the primary and subsidiary laws of learning as stated by Thorndike in his "Educational Psychology: Briefer Course." (Restated and illustrated in Cox: "Curriculum Adjustment in the Secondary School," pages 100–101.)

4. Of what significance are McMurry's standards—motivation, consideration of values, organization of subject-matter, and individuality in the determination of the curriculum?

5. Comment on the following excerpt. If accepted what changes would this process make in our school procedures?

> No person or institution can educate anybody. Education is a voluntary process. . . . A fault with education in America is too much teaching. Too much prescribing of what shall be learned and how it shall be learned. Freedom is what is needed in education. Start a boy right in any subject; better help a boy start himself right in any subject, and then say to him: Come to me when you

get stuck, and we will talk it over that we may help each other; but son, if you are going to be an educated man, you must have large liberty in directing yourself. From Wallace Butterick, late President, General Education Board.

CHAPTER III

1. A boy learning to throw baskets from the "free throw" position, tries twenty times; if ten times he makes a basket (correct practice) and if twenty times he fails (incorrect practice) what, if anything, has he learned? Can you harmonize your answer with the laws of learning?

2. What has English to do with assemblies? What has social science to do with social service? What has science to do with lunch-rooms? What has physical education to do with athletics? What has art work to do with school adornment? What has shop work to do with school repairs? Can you give examples of several correlations of school subjects with school life?

3. Distinguish between intrinsic and extrinsic subject-matter. Assuming the supreme importance of emotionalized attitudes in conditioning human behavior, explain the significance of the "Wider Problem of Method." (Cf. Kilpatrick: "Foundations of Method," chapters VIII–IX.)

4. Comment on the significance for the junior high school curriculum-maker of the condition of affairs as stated by Oswald in Wells' "Joan and Peter" (page 561)[1]:

> "Consider this beast we are, this thing man! . . . A solitary animal, a selfish animal. And yet this creature has now made for itself such conditions that it *must* be social. Must be. Or destroy itself. Continually it invents fresh means by which man may get at man to injure him or help him."

5. Comment on the following conception of Utopia and its significance for junior high school curriculum-makers:

> "It is a life of demigods, very free, strongly individualized, each following an individual bent, each contributing to great racial ends. . . . It is, I see, a practical communism, planned and led up to through long centuries of education and discipline and collectivist preparation. In this fortunate world . . . there is no Crowd. The old world . . . was . . . and it still is, the world of the Crowd, the world of that detestable crawling mass of un-featured, infected human beings." From Wells' "Men Like Gods" (page 285)[1].

6. Bobbitt ("The Curriculum," page 119)[2] asserts that:

> In his relations to other individuals, conditions forced upon primi-

[1] Published by The Macmillan Company.

[2] Published by Houghton Mifflin Company.

tive man two standards of conduct, two sets of attitudes, two sets of virtues. The good citizen of the tribe was the one who most vigorously exercised the social virtues toward the members of his tribe, and who most valiantly exercised the anti-social virtues toward members of the alien tribes. The bad citizen was the one who exercised the hostile virtues toward his fellow-tribesmen and the friendly virtues toward the aliens.

Intra-group virtues	*Extra-group virtues*
Mutual aid; social service	Injury; destruction
Fair-dealing	Double-dealing; treachery
Truthfulness; honesty	Deceit; stratagem
Loyalty; obedience	Hostility; opposition
Modesty; humility	Arrogance
Submission to group opinion	Defiance; antagonism
Courtesy	Incivility
Self-restraint	Unbridled freedom
Gentleness; mercy	Ruthlessness

How may the junior high school exploit small group virtues for large group ends?

7. "Except as the school is an embryonic typical community, its training must be partly formal and partly pathological." Explain the significance of this statement in the light of the three preceding statements.

CHAPTER IV

1. To what extent, and in what sense, is it true that citizenship is the supreme and most immediate objective of public tax-supported schools in a democracy?

2. If this is largely true, does the attainment of this objective depend upon the inculcation of habits of unquestioning obedience, nationalistic loyalty, reverence for the Supreme Court, belief that the Constitution is above criticism, a respect for private property, a readiness to suppress one's desires and habits if they are in conflict with social welfare, a readiness to accept prevailing opinions? Always? Sometimes? Never?

3. List several typical knowledges, interests, attitudes, ideals, habits, and powers that seem to you most desirable that all members of an American society should have. (Cf. Bobbitt: "How to Make a Curriculum" and Bobbitt: "Curriculum Investigations.") Select one of each group that the junior high school seems best adapted to develop and indicate the manner in which the various junior high school agencies might accomplish the task.

4. Outline the treatment of one topic of civics or history or geography or of a "fused" course in social science which would make probable the improvement of many of the pupils in one or more of the traits which you have listed for the third problem above.

CHAPTER V

1. What are the appreciation aspects of wholesome living? the practical "tool" aspects? the vocational aspects? the civic aspects? the home-membership aspects? the leisure occupation aspects? the ethical aspects?

2. Is there any important relation between posture and self-confidence? between digestion and optimism? between sullenness and spontaneous physical activity? Of what significance to the school's health program are your answers to these questions?

3. What is the school administration's relation to the problem? And what is the relation of your subject to the school administration's efforts to solve the health problem?

4. In its efforts to give adequate attention to physical and mental health, how may the school avoid a confusion of aims and means, useless duplication and overdoses of emphasis, and interference between departments?

CHAPTER VI

1. Can one learn to think apart from actual experiences? Can one gain from the study of language unless language is accompanied by experiencing? How does one learn to think abstractly? (Cf. Chapman and Counts: "Principles of Education," Problems 7 and 8.)

2. What uses does the socially efficient "educated" person make of the following knowledges and skills learned in school: (*a*) figures of speech; (*b*) handwriting; (*c*) enunciation; (*d*) choices of words; (*e*) French pronunciation; (*f*) etymology; (*g*) spelling; (*h*) Latin syntax; (*i*) French translation; (*j*) correct usage; (*k*) English technical grammar; (*l*) history of languages; (*m*) thinking in English; (*n*) sentence structure; (*o*) punctuation; (*p*) French irregular verbs; (*q*) sonnet structure; (*r*) allusions; (*s*) oral reading; (*t*) silent reading; (*u*) declamation; (*v*) forms of the drama; (*w*) Latin translation; (*x*) reports; (*y*) letter writing; (*z*) description?

3. Can you add a dozen other knowledges and skills connected with language arts which are of frequent and important use by competent adolescents or adults? Do these persons have adequate command of these knowledges and traits? Do the practices of out-of-school life which call for these uses furnish opportunities for the school to motivate and direct the significant behaviors of youths and adults? Do schools now take adequate advantage of these opportunities? If not,

can you suggest several feasible projects or exercises whereby better practices might be developed?

4. List five of the above knowledges and skills that are most frequently of great importance in unspecialized life situations; list five that are of very little importance and of infrequent use; list five that are seldom used but of considerable importance when used, and list five that are frequently used but of little importance when used. Now mark with a *D* each example that causes difficulty; i. e., that is used with some degree of frequency, but is so poorly done that it causes embarrassment, or loss of efficiency.

5. On the basis of these classifications, what knowledges and skills should we strive to develop through the course of study in language which you would recommend as a core-curriculum course.

CHAPTER VII

1. Review your appreciations for the past two weeks or the present year. Rank the experiences that have been most meaningful and satisfying to you in such a list as the following:

(*a*) Reading of such books as "Dodsworth," "The World of William Clissold," "Kristan Lavransdatter," "Preface to Morals."
(*b*) Listening to the victrola reproduction of a violin solo of Fritz Kreisler.
(*c*) Enjoying a glorious sunset, a snow scene, or a landscape.
(*d*) Reading Longfellow's "Evangeline," Scott's "Lady of the Lake."
(*e*) Include about twenty other items.

2. Is there an emotional quality implied in "appreciation" which is essential to attitudes and ideals, but which is frequently not present in processes of knowledge-getting or habit-formation?

3. Keeping in mind your answers to problems 1 and 2 as you plan your answers to problem 3, discuss the best uses of the following school instruments for appreciation leading to more worthy uses of leisure time: (*a*) auditorium exercises; (*b*) literature; (*c*) school clubs; (*d*) nature study; (*e*) biography; (*f*) travelogues; (*g*) graphophone and radio; (*h*) chorus music; (*i*) physical education; (*j*) practical arts; (*k*) home arts; (*l*) fine arts; (*m*) advisory periods; (*n*) after-school time; (*o*) week-ends and vacations; (*p*) Latin; (*q*) English grammar; (*r*) algebra; (*s*) moving pictures.

4. What are some of the appreciation aspects of the English language, foreign languages, mathematics, biology, physical geography, history, occupational training? Can appreciation be compelled? If not, how does the answer to this question affect the teacher of grammar, factoring, evolution, erosion, chronology, machinery?

5. If definite time, say four 60-minute periods a week, were set aside for appreciation lessons, what uses would you recommend should be made of this time?

CHAPTER VIII

1. Why are mathematics, physics, chemistry, biology, physical geography, etc., called "exact sciences" in contra-distinction to the social sciences? Is this distinction valid?

2. Is there a distinction to be made between the degree and universality of control demanded of pupils for the fundamental processes of arithmetic and of the control we expect of pupils for business procedures, graphs, algebraic equations, trigonometric functions, geometry theorems? If so, can you justify the distinction?

3. Compare the relative importance to the non-specialist of the knowledge of (*a*) how a gas-engine works; (*b*) how a gun is fired; (*c*) how a surveyor measures heights, distances, and areas; (*d*) how a plant makes starch; (*e*) how rocks are formed and disintegrated; (*f*) how complex fractions may be simplified; (*g*) how a bank computes interest; (*h*) how a comptometer works; (*i*) how a perpendicular bisector of a line may be constructed; (*j*) how a graphophone reproduces music; (*k*) the sources of energy; (*l*) the factors that affect climate; (*m*) how taxes are computed; (*n*) how the human body is nourished; (*o*) how energy is transformed; (*p*) the nature and uses of sour milk; (*q*) how plant and animal life reproduces itself; (*r*) how insurance premiums are reckoned; (*s*) how drawings or solids are scaled; (*t*) how a house is wired for electricity; (*u*) the care of a baby; (*v*) how a city supplies itself with water; (*w*) how acids and bases neutralize each other to form salts; (*x*) how profit and loss from investments are reckoned; (*y*) how water, gas, and electricity are measured; (*z*) how a house is kept warm in winter.

List five of these items that seem most frequently of great importance in unspecialized life-situations; list five that are of little importance and of infrequent use; list five that are seldom used but are of great importance when used, and vice versa. Mark with a *D* each item that you have known to cause difficulty because some person lacked control of the information or lacked ability to think from cause to effect or effect to cause.

4. What is meant by "quantitative thinking"? Does mathematics or science or social study or practical arts promote it most? How might junior high school practices in mathematics and general science directly increase and improve the readiness and ability to think quantitatively?

5. What is scientific thinking? Is it promoted most by practicing with a pattern, e. g., multiplication of fractions according to a rule and model, or by concrete experiences in searching for explanations

of unexplained situations or with unusual data, e. g., a fish living under water, or copper being deposited on a nickel attached to an electrode in a cell containing copper sulphate?

6. Outline several projects or learning units in exact science that would seem to be in harmony with Cox's Sixth and Seventh Principles ("Curriculum Adjustment in the Secondary School," chapter X):

VI. Some subjects are so important to the mutual adjustment and welfare of the individual and society that they must be required of all pupils.

VII. Core-curriculum courses should be so arranged that each one is most worth-while at the time taken and to the extent pursued.

CHAPTER IX

1. Evaluate the importance for boys, for girls, and for both, of each of the following:

Ability and readiness:

a. To copy and to compose on a typewriter.
b. To make change.
c. To hang doors.
d. To set glass.
e. To cook cereals, toast, tea, eggs.
f. To sew on buttons.
g. To test out, clean, and change spark plugs.
h. To patch an inner tube and change tires.
i. To patch a three-cornered tear in one's clothes.
j. To wash and scald dishes clean.
k. To select cuts of meat or to choose fabrics wisely.
l. To repair and paint furniture.
m. To make free-hand sketches of situations, instruments, jobs to be done, etc.
n. To use T-square, dividers, and drawing-board.
o. To get packages ready for parcel-post or express.
p. To write legibly.
q. To read a map.
r. To vote.
s. To take part in formal discussions, i. e., parliamentary procedure.
t. To outline or summarize a report.
u. To brush one's teeth thoroughly.
v. To direct the mingling of a crowd for purposes of seating, or passing, or looking at an exhibit, or dancing.
w. To sail a boat or paddle a canoe.
x. To arrange the details of travelling.

2. In the light of your answers to problem one, how thoroughly would you approve the present practices in home economics and industrial arts courses in the junior high school that you know best?

3. To what extent should core-curriculum practical arts experiences be common to boys and girls? Is your answer based on community life of a decade ago, the present, a decade hence? Is it influenced by expediency?

4. In what ways may practical arts instruction reinforce, guide, and direct informal pupil behaviors within and outside of school?

CHAPTER X

1. What constitute seventh grade essentials in reading? handwriting? punctuation? composition? history? geography? computation? science? Make yourself specifically responsible for one topic, and have a general acquaintance with the others listed in this question.

2. What provisions have been made for helping pupils to make up deficiencies in progressive junior high schools?

3. Are there minimal essentials of associated living? What are some of them? Are they less or more important than those listed under problem 1?

4. Are there minimal essentials in health? in self-confidence? in appreciations? in practical arts? in oral communication? Name some of them. Are they more important or less important than those listed in problem 1? than those implied in your answer to problem 3?

5. In view of the relative importance of each "subject" and of the need for school education and the need for special assignments of time in each field, lay out a time allotment schedule for grades 7–9 of the school that you know best.

CHAPTERS XI–XIV

1. What do you understand by the term "the exploratory function of the junior high school"? Does it imply that all pupils must explore the same opportunities? If not, what factors would cause differentiation between the number of different try-outs needed for different pupils?

2. What are the guidance values of electives? What elective guidance opportunities should be offered in a specific junior high school known to you?

3. What are the preparatory values of junior high school electives in fine arts, in industrial arts, in commercial subjects, and in academic subjects? What ones should be offered in a specific junior high school to contribute to these values?

4. Should pupils be discouraged from changing electives at the junior high school level? Is it as important that pupils find out what

they cannot do, or are not interested in, as to find what they are interested in doing?

5. Distinguish between interesting and easy; between interest and effort. (Cf. Dewey, John: "Interest in Education.")

6. Within an elective subject should the work be uniform for all pupils, or should pupils elect the phases of work within the elective on which they wish to concentrate? If such flexibility is desirable, is it feasible? in shops? in home arts? in fine arts? in music? in literature? in mathematics? in foreign language? If so, give examples. If not, why not?

7. With regard to guidance in the choice of electives, what is the function of a vocational counsellor, a home-room adviser, the teacher of vocational information, the school principal? Is the arousal of enthusiasms for further education the most important function of all four officers?

CHAPTERS XV–XVI

1. Do pupils leave the junior high school to go to work in any considerable numbers? Do all of those who leave enter continuation school? What effect do the answers of these questions have on your recommendation as to the inclusion of vocational education in the junior high school program of studies?

2. Of these pupils who do leave a school known to you during junior high school grades, what proportion of each sex would you estimate enters office occupations? other business employments? unskilled industrial employments? apprenticeships or vocational schools? private preparatory schools? sectarian schools? finishing schools? other special schools? (Cf. Toomey, Elizabeth: "Who Leaves Junior?" in Lyman Cox: "Junior High School Practices.")

3. What kinds of direct preparation for further education should the junior high school offer?

4. What is the place of the "Smith-Hughes courses" in relation to the junior high school program of studies? (Cf. Lyman, R. L.: "The Washington Junior High School," and Cox, P. W. L.: "The Solvay Junior High School" in Lyman-Cox: "Junior High School Practices.")

5. Is the social life of the school of as great importance as vocational preparation?

6. What are the vocational needs of junior workers in commercial employments? in girl machine operative employments? in boy machine-shop employments? in agriculture? What typical knowledges, interests, attitudes, ideals, and skills may society expect the junior high school to endeavor to develop for each group of these pupils?

7. What are the advantages and the disadvantages of general shop courses? of general industry (Smith-Hughes) courses? of agricultural home project courses? of try-out sequential courses in specialized shops?

CHAPTERS XVI–XIX

1. In a few paragraphs, (*a*) describe the general social and economic character of a community known to you; (*b*) characterize the potential pupil population of a junior high school in the community. Then in terms of the community's needs and demands, outline a program of studies that you would introduce in a junior high school next September, in the light both of what is desirable and of what is practicable. What program of teacher education and of community enlightenment would you undertake to safeguard such advanced position as you would take, and such progressive steps as you would hope to make?

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